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ABSTRACT

Intended to help junior high school teachers make the best possible decisions about how to meet the needs of students with reading difficulties, this guide describes instructional strategies and explains how they may be used with students of varying abilities. The introductory section of the guide sets forth its purposes and organization, while the second section, "Challenges for Teachers of Reading," examines contemporary views of reading, the relationship of reading to the thinking process, and current trends and issues in instruction. The third section, "Teaching Strategies to Assist Pupils to Higher Levels in Reading," presented in three parts, offers ideas from research to enrich preactive, interactive, and evaluative reading instruction. The fourth section of the guide, "Teaching Specific Skill Clusters," contains an analysis of required intellectual processes and suggested steps for addressing skills in which low-achieving seventh and eighth grade students are most likely to be deficient. The guide also includes an extensive reference section of resources to help in instructional planning, in measuring pupil proficiencies, and in further study. Specific items in this section are sample questions from the New Jersey "High School Proficiency Test," taxonomies of educational objectives and related questioning techniques, and brief descriptions of New Jersey's effective programs for reading and thinking. (FL)

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Improving Students' Abilities to Read and Think

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A Resource Guide for Reading Teachers of Junior High School Students

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TESTING LEARNING TEACHING

New Jersey Department of Education, Division of General Academic Education

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IMPROVING STUDENTS' ABILITIES TO READ AND THINK

A Resource Guide for Reading Teachers of Junior High School Students

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COMMISSIONER'S FOREWORD

During the recent years, several influential reports and recommendations for educational improvement were delivered by an impressive number of high-level task forces. They were unanimous in their insistence that educational opportunities could and should be improved and that standards of teaching and learning should be raised. Our own convictions, buttressed by these recommendations, have redirected our attention from minimum educational standards to more rigorous levels of student achievement in school curricula and higher levels of intellectual activity.

Our response to these concerns has taken several forms. One is our new High School Proficiency Test (HSPT) designed for ninth grade students. The HSPT tests more rigorously the lower level skills which were a primary concern of our former statewide testing program and goes well beyond to examine students' abilities to use higher level cognitive skills.

Another response is our development and dissemination of materials which will assist school personnel in strengthening the day-to-day learning experiences of students. This is the purpose of Improving Students' Abilities to Read and Think, a resource guide for reading teachers who work with junior high school students. The materials and teaching strategies in this publication have been successfully field tested in training and classroom situations. Similar publications and related training opportunities in other instructional areas are under development. I commend these materials to the attention of administrators and teachers. I believe that you will find in them some ideas for new approaches, which, together with your own commit- ment and hard work, will contribute to better education for New Jersey children and youth.

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CHAPTER I

INTRODUCTION

A. PURPOSES OF THE RESOURCE GUIDE

B. ORGANIZATION OF THE RESOURCE GUIDE

PURPOSES OF THE RESOURCE GUIDE

The purpose of this booklet is to help teachers make the best possible decisions about how to meet the needs of their pupils who are having difficulty in reading. Our objectives in writing this resource guide are to:

- acquaint teachers with the research base in reading and what it means for effective reading instruction;
- help teachers focus on an active and responsible instructional role;
- describe a variety of recommended strategies for teaching reading to low-achieving pupils;
- relate the implications of research and effective practice to the educational status and needs of intermediate pupils in New Jersey;
- expand teachers' understanding of the relationships between reading tasks and pupils' intellectual processes; and
- provide guides and examples to be adapted to instructional planning for particular pupils.

The instructional strategies described can be used effectively with students of differing abilities and ages. However, the emphasis throughout the guide is on applying these approaches to the special needs and problems of low-achieving junior high school students.

Reading instruction has often focused on developing and strengthening isolated skills. More recently, research on reading has shown that approach to be less helpful than we presumed. Therefore, in this resource guide, strategies for helping students read and understand whole passages are highlighted. The need for skill-building can then be identified and met in the context of lessons which emphasize meaning.

This booklet is intended to be a resource for teachers. It does not describe a program. It is not a curriculum. Teachers may find it useful as a primary planning tool, to design instructional activities based upon pupils' reading materials. More likely, they may turn to it as a supplement, to augment their standard instructional materials. In the latter case, they may find here ideas and activities to expand their repertories of strategies to help low-achieving intermediate pupils read and understand. Even more practically, this guide may be a source of concrete examples of teaching and assessment approaches, as, for example, in the samples from the 1983-84 New Jersey High School Proficiency Test in reading.

Given the proliferation of materials, admonitions, and well-meaning advice all so readily available to teachers, what should teachers hope to gain from using this booklet? It is our hope that teachers will explore

thoughtfully the suggestions offered and give them an honest trial, both mentally and actually applying them to their own pupils and circumstances. Doing so, they may attain these benefits:

- an expanded knowledge base about reading and reading instruction;
- a set of varied strategies useful in activating higher level thinking; and
- a basis for planning more balanced reading lessons which fully and actively involve pupils in prereading, reading, and post-reading activities.

ORGANIZATION OF THE RESOURCE GUIDE

In this booklet, we will draw implications from theory and research on strategies for teaching low-achieving junior high school students to read better and understand more fully. The content is organized around the following topics:

- **Challenges for Teachers of Reading** is concerned with contemporary views of reading, its relationship to thinking processes, and current trends and issues in reading instruction.
- **Teaching Strategies to Assist Pupils to Higher Levels in Reading**, presented in three parts, offers ideas from research to enrich preactive, interactive, and evaluative reading instruction.
- **Teaching Specific Skill Clusters** presents an analysis of required intellectual processes and suggested steps for addressing skills in which low-achieving seventh and eighth graders are most likely to be deficient.
- **Resources for Use and Further Study** contains materials to help in instructional planning, measuring pupil proficiencies, and further study. These include a sample New Jersey High School Proficiency Test, taxonomies of educational objectives and related questioning techniques, and additional resources for teachers' use.

Within these topics, we will consider what theory, research, and informed practice have to say about helping pupils develop skill in reading, understanding, and integrating the information they obtain.

CHAPTER II

CHALLENGES FOR TEACHERS OF READING

A. READING AND LANGUAGE

B. CONTEMPORARY VIEWS OF READING

C. READING AND PUPILS' THINKING PROCESSES

D. PROBLEMS WE FACE IN HELPING LOW-ACHIEVING READERS

E. ROLE OF THE TEACHER

READING AND LANGUAGE

In a few short years, the junior high school students who sit in your classroom will be planning careers, making family decisions, choosing whether to vote and for whom and what, and functioning as decision-making adults in all the other ways our society expects. The skills they learn in school are critical to their ability to do so, and preeminent among those skills is reading. People in our society need to read in order to:

- solve problems of daily living;
- cope with the complexity of their lives and times;
- make sense of their experiences;
- find pleasure and enjoyment; and
- fill roles and responsibilities expected of them in our culture (Page & Pinnell, 1979).

Reading is an act of two-way communication. Contemporary authorities emphasize the active thinking that the reader must give to the task, in order to understand the message of the writer. Just as two-way communication between speakers and listeners requires a meeting of minds, reading, too, requires that writers transmit thoughts and readers receive them satisfactorily. The connection depends on both writer and reader: the writer for a clear message and the reader for a receptive attitude and sufficient background to make understanding possible.

Pupils' language experiences in and out of school affect their reading achievement. Reading should not be isolated from speaking, listening, and writing, either in the reading class or in content subjects. Integration of reading into the broader school experience will help to enlarge the repertory of concepts pupils need in their learning. Integration of pupils' experiences into the reading program will enhance their abilities to understand the written passages.

CONTEMPORARY VIEWS OF READING

By the time a pupil reaches junior high school, he or she may have been exposed to a variety of methods in reading instruction, all based on different theories of how children learn to read. Current debates about reading processes concern whether learning to read is passive, active, or a combination of the two (Wildman & Kling, 1978-79). Some authorities claim that reading is learned passively, from the bottom, or simplest level skills, to the top, and that learning to read depends heavily on letter-by-letter visual analysis. In this passive view, beginning readers must first analyze letters and words and their correspondence to sounds, then later analyze the interrelationships between words and phrases and their meanings.

In sharp contrast, authorities who believe that learning is an active process stress the intellectual activity readers bring to reading. They declare that readers predict what the writer is going to say next by using information from many sources -- their own experiences, their knowledge of language and its structures, their understanding of what has come before in the reading, and perceptual clues. In other words, reading is essentially an intellectual process of finding meaning.

A third group of authorities occupy the middle ground, tending to combine some features of both passive and active theories. They believe that the reader uses hypothesis or prediction as long as it works, thus reducing the time-consuming process of visual analysis. Letter-by-letter and word-by-word analysis may threaten and delay comprehension. Prediction probably increases efficiency in decoding and comprehending, since some of the reader's predictions will be accurate. However, an encounter with new words and concepts requires the reader to move into the visual analytic mode.

The wide divergence between the extreme passive and active theories, and all the subtle shades of difference between them, may help to account for the reading behaviors teachers see in junior high school. Prevailing ideas about reading during teacher training and differing perspectives represented in instructional materials may result in a variety of methods of early and middle grade reading instruction as well as a variety of interpretations of pupils' problems and attempts at remediation.

Despite the diversity of views about reading, there is consensus that intellectual processes are involved. Reading requires specific skills for correlating sound and meaning with written symbols, but it is more, much more, than a set of mechanical responses to the patterns of letters, words, and sentences. The reader must bring something of self to the reading task: intent to unlock the written message, attention to the numerous sources of help, and active thinking to understand its meaning. It is reasonable to assume that the competent reader employs both developing knowledge and discrete skills as he or she actively engages the text.

READING AND PUPILS' THINKING PROCESSES

Reading makes demands on intellectual, perceptual, and social-personal abilities and processes. In order to obtain meaning from written language, beginning readers must first be able to understand the function of the words and letters, which are arbitrary signs, representing objects and events to which they bear no inherent relationship. Readers of English, which contains more irregularities than many languages do, must also master skills of class inclusion, with its intellectual demand for concrete-level reasoning, for example, when they understand that letters have certain pronunciations that change in combination with other letters (Wadsworth, 1978). Young readers also must learn the conventions of written language, since authors do not write the way people typically speak.

By the time children are in the middle grades of school, the reading expected of them involves reasoning about familiar people, places, and circumstances. These older readers must bring to bear a much greater range and depth of thinking. In their reading, they must:

- deal with differing times and places;
- relate new ideas to what they already know;
- reach conclusions about a topic;
- derive principles which can apply to new situations;
- grasp an author's rationale and purpose;
- combine information from different sources into a coherent whole; and
- judge the worth of viewpoints presented.

Through a combination of experience and maturation, those older students become able to cope with abstractions and solve a variety of problems logically, without having to refer to concrete objects and events. The reading assigned to them, both in reading and English classes and in content subjects, assumes that they can engage in these higher-level cognitive processes. Study skills, such as locating relevant information, outlining information obtained from reading, organizing for presentation of a topic, summarizing from one and from multiple sources, synthesizing material from multiple sources, and the like, make heavy demands upon the thinking processes of middle school youngsters.

Because reading and thinking are so intertwined, it aids our understanding of pupils' problems when we identify the specific intellectual demands made on readers. Taxonomies of intellectual operations are useful in this regard. One of the best known taxonomies of intellectual processes is that of Benjamin Bloom (1956). It has been widely used in the development of curricular objectives, the preparation of tests and measures, and the design of instruction aimed at promoting critical thinking. The entire taxonomy, which is quite detailed, and the rationales underlying its development may be found in the book edited by Bloom. The broad category headings are these: knowledge, comprehension, application, analysis, synthesis, and evaluation (see Appendix C, p. 181).

Bloom's taxonomy classifies educational objectives by their relative simplicity and complexity. However, it is a static listing, and, standing alone, offers little help in understanding children's intellectual growth or what they must be able to do before they can meet the cognitive demands of specific learning tasks. For such purposes, teachers may find Piaget's (Piaget & Inhelder, 1969) hierarchy of stages of cognitive development more helpful. Piaget theorized that normal

maturation, personal experiences with the physical and social environment, and naturally-occurring adaptive processes result in a child's increasing ability to think more abstractly and solve more complex reasoning problems. At any given time, the child's developmental status helps to determine his or her interests and abilities.

The contents of this booklet are based on assumptions that teaching strategies in reading must involve pupils in active thinking about what the author is attempting to convey and what that signifies. The bulk of recent research on effective reading instruction underscores the importance of the pupils' attention to the new materials, the framework of concepts (sometimes called a schema) they bring to it , the ways they fit and combine the new information with their existing knowledge, and the significance they place on what they have just learned. Reading, although a tool subject, cannot be considered as separate from the pupils' intellectual activity. It is thinking in the context of written language.

Later on, we will describe some techniques which will help the teacher to "regulate" the kind of thinking pupils must use to respond. Several of these approaches are based on taxonomies or hierarchies of intellectual processes which vary on in simplicity and complexity. The higher levels of these require the more logical thinking that adolescents become able to do.

PROBLEMS WE FACE IN HELPING LOW-ACHIEVING READERS

Today, significant numbers of pupils have difficulty in reading, a fact which has brought forth a variety of explanations. Some have criticized schools as ineffective, teachers as incompetent, or educational materials and methods as irrelevant. Some have attacked understimulating and inadequate home environments or overly busy and inattentive parents. Others say the young themselves are at fault: they are unmotivated, too easily distracted by media entertainments, too prone to "tune out" difficult, school-related tasks.

Whatever the reason, when middle school youngsters are having marked difficulty in reading, we have an educational emergency. Trying to progress through school with inadequate reading abilities causes pervasive and steadily increasing difficulty for pupils, since reading is involved throughout the curriculum. The pupil who has pronounced problems in reading is a pupil under stress, and the level of stress is heightened with each passing year. Undue stress is counterproductive to learning, since it seems to reduce abilities to see, hear, attend to details, and think clearly, all of which are important to reading and other school subjects. The treatment of choice is a strong dose of self-confidence.

Pupils with low levels of confidence may be unwilling to take risks: the possibility of making more mistakes and failing again inhibits their desire to try and discourages them from reading all together. Students

troubled by their reading problems probably lack confidence in their own abilities. They may be trying very hard to apply the skills they have been taught, but nothing is working. They lack an effective strategy and a sense of how the separate skills and processes are integrated for successful, meaningful reading (Goodman & Goodman, 1982). It is no wonder that junior high students with reading problems may lack enthusiasm, have low self-esteem, feel discouraged and defeated, and present complex instructional problems to teachers.

For troubled readers in junior high school, the reading task is three fold: they must acquire some skills which they have not mastered at the expected time; they must correct faulty strategies; and they must learn new skills required by the more complex reading of secondary content areas. The latter component of the reading task involves the development and application of the more mature thinking and reasoning processes associated with adolescent development.

ROLE OF THE TEACHER

Teachers Are Leaders.

One very important role of the teacher entails leadership. Teachers must motivate pupils to try and keep on trying. They must keep pupils interested, and they must convince them that reading is personally worthwhile.

Teachers report that one of their greatest concerns is to help their pupils become competent readers. To achieve this end, many teachers have followed a variety of recommendations: more time, more drill, more testing, more or different materials, more step-by-step instructions in prescriptive teachers' guides, and so on. Sometimes the procedures have helped, but frequently they have not been sufficient. Teachers are often faced with pupils who have low confidence, diminished motivation, and repeated experiences of failure. Often their instructional materials rely on methods predetermined by persons who do not know the real situations they face. In these circumstances, teachers may become disheartened by their pupils, disenchanted with the instructional materials, and discouraged with the balance of their own successes and failures.

Teachers themselves have identified what they want and need to know in order to help pupils to whom reading skills do not come easily. They ask for more help than the teachers' guides usually provide. For example, in a survey reported by Page and Pinnell (1979), middle-grade teachers asked for more information about effective reading instruction. They said they needed to know instructional strategies they could use in their own classrooms, with the time and resources they typically had at their disposal. They wanted summaries and interpretations of research about reading processes, with translation into implications for classroom practice. Basically, they wanted enough information about the teaching and learning of reading to make responsible professional decisions for their own pupils and their own programs.

These desires reflect a change in the perceptions of teachers' roles. In recent years, teachers have been seen primarily as "managers," whose responsibilities have included the use of time, materials, tests, and environmental resources to accomplish instructional objectives. The assumption was that, given proper management, learning would occur. Today, however, the focus is shifting to the role of "teacher as teacher" (Pearson, 1982). Teaches are now seen as professionals who observe and diagnose pupil problems, match reading materials to pupils' status and needs, evaluate continually, and choose instructional strategies to suit the circumstances. They must model for pupils, guide pupil learning and give corrective feedback, all according to their best and most informed professional judgment. (Pearson calls this the "teacher-as-teacher" model, surely a fitting role!) The change in emphasis requires rethinking the ways teachers operate and the ways they use instructional resources.

Teachers Are Decision-Makers.

Teaching is characterized by decision-making. Shavelson (1976) has identified these four features which affect the decisions teachers make:

- Teachers choose what they do from a variety of possible teaching acts.
- They choose in a context which they cannot completely control (for example, administrative procedures or physical and emotional states of students).
- They decide on the basis of their own perceptions and predictions about the educational consequences of certain procedures.
- They choose in light of their instructional goals.

In planning and teaching, teachers proceed through these multiple, sequential steps at which decisions must be made:

- defining the outcomes sought;
- specifying optional approaches which might work;
- describing where the students stand now in regard to the objectives;
- estimating the potential effect of each alternative design of instruction; and
- monitoring learning and instruction by observing pupil behavior.

The kind of active, continual decision-making Shavelson describes is necessary because no particular kind of instructional method or material is consistently superior to others. There are simply too many variables, remarkably diverse. It is the teacher who determines the quality of reading instruction, based on his/her knowledge of teaching, pupils' learning, and available options.

CHAPTER III

TEACHING STRATEGIES TO ASSIST PUPILS TO HIGHER LEVELS IN READING

PART 1. THE PREACTIVE PHASE OF READING INSTRUCTION

A. DIAGNOSING AND PLANNING FOR READING INSTRUCTION

B. SELECTING READING MATERIALS

C. PLANNING THE CONDITIONS FOR OPTIMAL LEARNING

D. PLANNING FOR THE USE OF QUESTIONS

E. HELPING STUDENTS KNOW WHAT AND HOW THEY KNOW

F. PLANNING FOR EVALUATION

DIAGNOSING AND PLANNING FOR READING INSTRUCTION

There is little evidence that students acquire reading skills in a hierarchical fashion. For example, readers do not seem to acquire literal vocabulary and comprehension abilities completely before they can master inferential skills. Research into what readers do and how they come to do it is closely related to research on thinking and learning in general. Since all aspects of reading appear to be interrelated, it is difficult and unrealistic to separate the parts of reading skills for analysis.

For these reasons, we will not focus on discrete skills or clusters of skills in considering the implications of research and demonstration programs. Instead, we will focus on instructional strategies that can be used with troubled readers. The strategies are divided into steps or segments that lead low-achieving students through clearly-defined learning steps. These suggestions are drawn from the work of theorists and researchers whose primary aims are to devise ways of helping troubled readers to read more fluently and think more clearly.

Teaching reading requires teachers to make decisions before, during, and after their direct interaction with pupils, in what have been termed the preactive, interactive, and evaluative phases of teaching. The decisions which teachers make during the planning phase are probably the most important ones, since they set the framework and function as a road map for the lessons (Shavelson, 1976). During both the preactive and evaluative phases, teachers have the time to reflect on what they know about the content of the reading materials, their objectives, and their students. Therefore, they may bring their best thinking to bear on the decisions to be made, in circumstances of relatively little pressure. Working with pupils in the interactive phase, teachers will probably face unpredictable circumstances requiring immediate actions, with little or no opportunity for reflection.

The teacher's active planning constitutes the preactive phase of reading instruction. Careful planning encompasses many areas of professional and personal knowledge which teachers have about their teaching assignments and their particular pupils. This part of Chapter III provides an overview of the planning involved in reading instruction.

During the preactive or planning phase, teachers establish objectives, identify appropriate general approaches, select the wisest instructional course for the pupils' learning needs, and devise procedures for evaluation of learning. This is a time when teachers can concentrate on bringing together all their knowledge of reading instruction and the needs of their pupils in relation to the objectives. Teachers' instructional responsibilities during the preactive phase require careful planning to coordinate the daily lessons with the class instructional plan and to integrate selected teaching strategies into overall goals and

objectives. (See Ringler & Weber, 1984, for a full discussion of the preactive planning process and its application to sample lessons.)

The broad curricular goals and objectives have been established by the local board of education, and, within junior high schools, administrators and teachers match their courses of study to those purposes and outcomes. The booklet Skill Arrays for the New Jersey Statewide Testing System (New Jersey State Department of Education, 1983) shows the reading skills expected of ninth graders, along with suggested benchmarks at lower grade levels. These may provide useful suggestions for the overall planning of reading class instruction. Also, since this present booklet is addressed to teachers of low-achieving seventh and eighth graders, it is likely that the objectives of many lessons will include the skills listed in Chapter IV.

Teachers select specific strategies based on ongoing diagnosis of the strengths and problems of individual pupils. Diagnosis and planning are heavy responsibilities for those who teach troubled readers. All sources of information which can suggest underlying causes of reading problems must be tapped, so that appropriate strategies can be chosen. If the child's problem is poor comprehension, for example, how can we find out whether it results from faulty decoding, inadequate knowledge of word meaning, lack of sufficient prior knowledge, poor memory or inability to apply and synthesize? Each of these has very different implications for teacher decisions. The teachers' knowledge of the status of the pupils must be drawn from evaluation of previous lessons, from observation during directed lessons and individual follow-up work, from analysis of informal written work, from tests, and from all other sources of diagnostic data.

Effective reading programs are constructed from a variety of teaching/learning activities. Effective teachers continue to build repertories of varied instructional strategies that work. Selection from among them should be based on the answers to several questions: Which format permits the kind of interactive teaching the pupils need? Which format facilitates the individualized activities most effectively, while preserving the interests of the larger group? Which is most likely to attract and maintain high interest and motivation?

SELECTING READING MATERIALS

Although reading is taught through many subjects in the junior high schools, the teacher who is responsible for reading per se, whether it is in an English class, a reading class, or a basic skills remedial group, teaches reading directly. In contrast, teachers of content subjects, who also have critically important roles, teach reading functionally. Content teachers work with concepts within a particular body of knowledge and are, therefore, more constrained in selecting their instructional materials. The reading teacher works with a curriculum composed of

understandings and skills which may be developed through a variety of materials. The reading teacher, then, has wide latitude in selecting instructional materials and methods.

Selection of reading materials is a complex responsibility. This is especially true today, when we are increasingly concerned with the kinds of thinking our instructional approaches require of students. To select the most appropriate materials for the objectives of instruction, the reading teacher must develop and apply criteria of four kinds: **the mode of discourse, level of reading difficulty, intellectual demand, and pupil interest.** Teachers will want to consider all four areas as they choose basal readers, content texts, and supplementary materials.

- Plan for variety in modes **of discourse.**

  The preponderance of reading passages in basal readers is narrative discourse, presented in the form of realistic fiction, modern fantasies, science fiction, folklore, poetry, or plays. Ringler and Weber (1984, pp. 188-190) describe these categories and their sub-types and offer helpful criteria for teachers to use in judging the worth of particular narratives for their own students.

  It is crucial to reading instruction to include expository materials, as well. Expository discourse is the most common form of reading students do in school and out of it, and this will be the case for the rest of their lives. Expository reading passages usually carry more information than narratives, thus making greater demands on children's thinking. They are more concise and sometimes involve specialized vocabularies. Moreover, the hierarchical organization of such passages requires that students recognize main ideas and their supporting details. Non-narrative materials which may be included in the reading program are content area textbooks, essays, manuals of directions, functional reading for daily activities, and reference reading. Ringler and Weber (1984) also recommend biographies and autobiographies because they require pupils to make inferences about the subject's life. (See their discussion of the expository mode, examples, and criteria, pp. 270-275.)

- Select passages of an appropriate **level of difficulty.**

  Readability is determined by both textual properties and characteristics of the students. In analyzing potential selections, teachers should consider the language complexity and clarity of the paragraphs and sentences, the combination of difficult words and simpler synonyms, redundancy in the text and/or any graphic features, and the logic of organization in the passage (Robinson, 1978). In non-narrative passages, such features as a

table of contents, an index, a statement of purposes at the beginning, and a summary at the end can facilitate pupils' comprehension.

- Analyze **the intellectual demands** the passages make of students.

  Semantic properties of the material, its conceptual load, and the reader's prior knowledge all affect the cognitive requirements for reading. Teachers must make a decision about their pupils' ability to understand the material, both in the context of the entire lesson, and in prereading activities. In doing so, they must keep in mind the familiarity their low-achieving students have with the concepts presented and the level of their intellectual functioning (Ringler & Weber, 1984). It is easy to assume a better match between author and reader than will be borne out in reality.

- Choose reading materials which excite **students' interests**.

  Textual materials must have personal relevance to students, either through a meaningful purpose for reading or intrinsic interest in the content.

  Studies show that youngsters vary in their reading preferences by the communities in which they live, grade levels, and sex. Some studies have shown that mystery and adventure stories get consistently high marks from adolescents, while history, geography, and family readings are the least preferred. However, the interests of particular pupils appear to depend on a variety of factors. For example, one group of inner-city black teens thrived on reading materials which included black history, culture, poetry, and other literature, as well as records and newspapers from the black community (Rist, 1971). Many teachers of low-achieving readers have been able to elicit pupils' interest with articles about social studies and science. Often such articles, written primarily for lower grade levels, have appropriate topics for the older readers.

PLANNING THE CONDITIONS FOR OPTIMAL LEARNING

The setting in which teachers and children interact must be managed well so that the intended learnings can take place. The way teachers use their own and the pupils' time and the way they respond to pupils' behaviors are critical to the teaching-learning process. (See Davis, 1985) Management considerations apply in reading, as they do in all other areas of instruction, and they have strong implications for teachers' planning.

- **Customize instruction** to your particular pupils.

  While every major study of the relationships between teaching processes and learning outcomes has underscored the importance of managerial abilities, we do not have a set of rules or principles which can ensure successful management (Good, 1982). We do know that good management results from teacher strategies which are tailored to the particular pupils, varying by their ages, their motivation, and by the kinds of purposes established for the lesson.

- **Prevent undesirable behavior**; do not wait for it to require your attention.

  Kounin's (1970) influential work indicated that teachers of well-managed classrooms differed from poor classroom managers by their preventive strategies, not by the ways they intervened after something untoward had occurred. The trick seems to lie in prevention of undesirable behavior by working for pupils' cooperation and keeping them involved in assigned tasks. Teachers can best achieve and maintain optimal learning by pro-active planning, as contrasted with reactive intervention, and by constant monitoring of pupils' rates of learning, their demonstrated difficulties, and their interest levels.

Although teaching-learning interaction takes place in classroom circumstances over which the teacher lacks complete control, some contingency planning during the preactive phase can reduce the number of unexamined decisions teachers make during instructional activities. Studies show that teachers tend to expect too little of low achievers. In fact, classroom observation has uncovered a number of ways in which teachers, probably unknowingly, behave differently toward low achievers (Good, 1982; Good & Brophy, 1980). For example, teachers tend to:

- seat them together, locate them in the back of the room, and pay less attention to them during instruction;

- give them fewer opportunities to answer questions or recite, less time in which to do it, and fewer clues and probes to help them arrive at the desired responses;

- give them more negative reaction when they respond incorrectly and less positive reaction when they respond correctly;

- hold them to lower standards in recitation; and

- give feedback which is less frequent, less accurate, and less detailed than that given to high achievers.

It is not surprising that many low achievers are not helped sufficiently by our remedial classes or by their reading instruction in self-contained classrooms. The different treatment they receive can erode their chances to learn, sap their motivation, and ensure a continuing pattern of failure! If teachers plan and implement changes in any of these circumstances which are applicable to their classrooms, they can significantly improve the results of the reading programs.

PLANNING FOR THE USE OF QUESTIONS

Questioning and answering are pervasive in education. Teachers ask many, many questions and pupils are expected to answer them. Observation of teachers and pupils during these question-and-answer sessions demonstrates that the great majority of the questions seek single answers and require low levels of knowledge (Durkin, 1978). Analysis of the questions suggested by teachers' guides to reading materials shows that many of them focus on unimportant details and most of them lack a framework which helps to build comprehension of the story. Pearson (1982) is one of several reading authorities who recommend that teachers change their questioning methods by varying the kinds and the timing of their questions.

Kinds of Questions.

Using questions effectively requires deliberate planning and effort. Questions come in many forms. There are the so-called "wh" questions: who, what, which, what did, when, where, why, and how. There are, of course, the yes-no questions. The term "pseudo-questions" has been given to incomplete statements (e.g., "The bear went over the ____.") and which require the student to complete the thought. Teachers have heavy responsibility to utilize the "wh" questions especially. They are the ones most frequently used in interaction with pupils, and they constitute the bulk of tests and textbook-based activities.

Teachers' manuals typically proceed from literal questions to interpretive questions and then to critical questions. There is evidence that teachers use the less demanding questions, the literal, to assess whether the pupils have understood the facts of the reading passage and can recall them. Assured that it is so, teachers then are free to move to the higher levels.

Several taxonomies of question-asking have been proposed to help teachers vary their questions in relation to purposes and level of difficulty. Some of these taxonomies distinguish between the kinds of intellectual demands an appropriate response requires. In effect, the teacher is helping to determine the level of thinking in which the pupils engage. A few of these schemes are presented in the discussion on systematic use of questioning strategies in Chapter III, Part 2 (pp. 51 - 59). Some are also applied within the teaching strategies for which descriptions and examples are given in the same chapter. Bloom's

influence is strong in some of these systems. A look at the separate "levels" of the systems reveals how closely associated they are with the kinds of knowledge and skills which form educational objectives. These questioning taxonomies can be useful guides for teacher-pupil discussions in interactive reading periods.

Pearson and Johnson (1978) caution that taxonomies of questions cannot be entirely accurate for the cognitive demands involved. For example, some "wh" questions can be answered at the level of literal comprehension, because the answer can be found easily in the text. The questions which require pupils to construct their own answers are the ones which contribute to growth in their reading and thinking skills. To Pearson and Johnson, the issue in reading is what purpose the question serves. If the necessary purposes are well served by the questions, varied thinking levels will be required. They emphasize the importance of including combinations of higher and lower order questions. Their recommendations are similar to those of Christenbury and Kelly (1983), in their "questioning circle," described in Chapter III, Part 2 (pp. 51 - 53).

Using Questions in Reading Instruction.

Careful planning can help to assure that questioning will be effective in facilitating students' understanding. From research findings and the educated guesses of authorities, many implications for teachers' questioning techniques can be drawn, for example:.

- Vary the **timing** of your questions.

  Prereading questions prepare the pupils for the reading content which follows by giving them a learning set. Prereading questions can help with intentional learning.

  Inserted questions help redirect and refocus pupil's learning. They may work best when children's interest is flagging.

  Postreading questions help to assess immediate learning outcomes in relation to objectives. Post-reading questions have been shown to help in both intentional learning and incidental learning (Faw & Waller, 1976).

- Use questions to help pupils **to make inferences**.

  Inferencing questions interspersed throughout the directed reading lesson can strengthen inferential comprehension of the materials read and can even facilitate comprehension of new stories yet to be read, according to Pearson (1982). If teachers also ask prereading questions which require pupils to make inferences about new situations on the basis of their prior knowledge, inferential comprehension is further improved.

Pupils may need active help in order to draw inferences. Pearson (1982) explains that it is often necessary for teachers to teach pupils how to develop answers to inferencing questions. One way to do this is to adopt the technique of "slicing" (Pearson & Johnson, 1978). As shown in Chapter III, Part 2 (pp. 55 - 56), Pearson and Johnson recommend that a teacher successively reduce the density of the question until it is simple enough for the pupil to respond acceptably. Then the teacher may gradually increase the complexity of the questions. This approach helps with cognition because it focuses the pupil's attention on the components of the text which must be linked together to arrive at the inference. It helps affectively, as well, because it gives the pupil an opportunity to experience success. If questions are so ever-present in classrooms, it is very important to be successful with some of them!

- Ask more "**higher order**" questions.

  Some studies show that questions which require pupils to synthesize, apply, and evaluate actually facilitate learning at those higher levels, without decreasing gains at the knowledge level (Shavelson, 1976).

- **Know what you want** to achieve with a question.

  There are two major reasons why teachers must be clear about their purposes in questioning. One has to do with the difference the question is to make in the learning process. The other has to do with how the question and answer are presented. When teachers know what they want to achieve, they can more easily determine what kind of response they want and couch the question so that they will get it. A question which asks for a pupil's opinion is correctly answered by a personal opinion; it should not require a fact or a logical inference.

- **Give feedback** on pupils' responses.

  Pupils need feedback about their answers. A match between the way the teacher asks the question and the kind of response considered acceptable will help to strengthen children's willingness to take on questions. Remember that Good and Brophy (1980) found that teachers tend to give low achievers less frequent, less accurate, and less detailed feedback than they give to higher achievers.

- Provide sufficient **wait time**.

  Quickly calling on another pupil when the first one has not answered can have negative results for many low-achieving

pupils, although it may be challenging for high achievers. Rosenshine (1976) thinks the difference may be that the low-achieving readers are not as adept at processing information that comes from many sources. Again, it is worthwhile to remember that teachers often unwittingly reduce low achievers' opportunities to think and respond by giving up on them too soon.

- **Encourage pupils to respond** to your questions.

  Teachers should avoid the role of the Grand Inquisitor. Too many questions, asked too frequently, can lead to negative consequences: pressured children, who either avoid answering, answer without thinking, or respond with "I don't know." Effective use of questions requires that teachers respond imaginatively to answers that are inaccurate or inadequate or not forthcoming at all, and that teachers find ways to build interest and confidence in pupils so that they will attempt more responses and ask questions themselves.

  One potentially helpful approach is to ask a student to retell a part or all of the story. Then the teacher may probe to elicit answers at varying levels of thought and comprehension, staying with the same student until he/she has answered successfully.

HELPING STUDENTS KNOW WHAT AND HOW THEY KNOW

Earlier in this booklet, we discussed the spiraling nature of the effects of reading difficulties. Troubled readers are quite likely to learn to predict their own failure, with the danger that they will then fulfill their own prophesies. The antidote for negative self-perception is the experience of success. One important component of success in reading is self-awareness. Pupils need to become aware of their own thinking processes in reading and, especially, the strategies which are effective for them, that is: What works? What helps? What did I do to arrive at that solution? The preactive phase provides an opportunity for teachers to consider ways to help students develop sensitivity to their own learning processes.

Teachers must plan to play an active role in pupils' development of metacognition.

- **Help pupils gain awareness of their own learning processes.**

  To build habits of reflection in pupils, teachers can ask them to remember and analyze what they did to come up with particular answers, where they found specific clues, how they know they are on the right track. If pupils are required to think about their own thinking and report their strategies, they will become more aware of their personal responsibility and activity in learning and more inclined to set standards for themselves.

Knowing that one knows and how one "got there" are part and parcel of a number of the strategies for comprehension and study skills which are described in this guide. For example, the SQ3R (see pp. 73), and related techniques help pupils become aware of their own thinking and learning processes and recognize the point when their own personal learning is successful. Anecdotes reported by teachers and researchers bear testimony to the self-awareness and insight students develop when teachers engage them in prereading activities which tap their prior knowledge and ready them for new information.

- Make sure that students **know their purposes** in reading.

  When students know why they are reading a passage, they are more likely to engage the text effectively. Many of the strategies designed for the prereading part of the interactive reading phase incorporate this principle (see p. 32).

- Teach pupils to **monitor their own learning**.

  One of the most helpful things a teacher can do is familiarize children with the question, "Does that make sense to you?" This question reinforces both the essential nature of reader-text interaction and the reader's responsibility to come to terms with the meaning (Goodman & Goodman, 1982).

  A characteristic of successful readers is that they are self-monitoring. Teachers who adopt inserted questions, require students to look back in the text for an answer, and use other periodic checks are helping children develop the habit of self-monitoring for meaning and for reading to fulfill a purpose. It also helps if teachers prompt pupils to be self-corrective. An atmosphere in which pupils can take risks, think through and change their responses, and have time to do so helps them learn to monitor and correct themselves.

- Help pupils grow in **independent and responsible action**.

  Tierny and Pearson (1982) describe two types of reading problems which may be relatively difficult for teachers to detect in a classroom full of pupils. One of these results from a reader's tendency to assume that his/her first understanding of the text is completely adequate; and the other concerns the opposite, an over-reliance on the text. In both cases, the pupils are failing to integrate the new information with their prior knowledge.

  Tierney and Pearson offer several suggestions. For the over-assimilating pupils, teachers can make the reading purposes clear to pupils; they can periodically insert questions or activities which help the pupils to check their progress against

the objectives; they can emphasize study strategies to externalize the monitoring--outlining, note-taking and the like; and they can have pupils perform a project which is guided by information detailed in the reading. For the over-accommodating pupils, teachers can redouble their efforts to help them activate their prior knowledge--the meaning they associate with terms and concepts, feelings which related events evoke, predictions based on their own experiences, and so on.

- Have pupils read and **reread the text**.

  Another strategy which may help low-achieving readers develop awareness of their own reading and thinking processes is to provide for several readings through the material, each with its own clear purpose. For example, the first reading could be to skim so as to obtain an overview of the content. The second might be to read for answers to specific questions. Later reading/s could be undertaken to clarify the relationship between important ideas and to confirm conclusions about the writer's plot or thesis and intent.

Metacognition and self-monitoring are very important to effective reading and studying. Teachers should plan to spend instructional time to help pupils acquire strategies for locating, remembering, and integrating information, as well as recognizing the ways they do it. Teachers should also teach students to transfer those strategies to other similar reading tasks.

PLANNING FOR EVALUATION

All components involved in the planning will guide the plan for evaluation: the objectives, identified student entry behaviors, general and specific teaching strategies selected, and the reading materials. Both formative and summative evaluation in reading instruction and learning will be discussed (see Part 3 of Chapter III). Teachers will want to settle on a plan for evaluation as a part of the preinstructional phase, although sometimes they will find good reasons for altering it. Use of the evaluation procedures and analysis of the findings will complete the lesson cycle of preactive-interactive-evaluative teaching. Then, armed with the information gained from the selected evaluation procedures, teachers may continually add to their own body of knowledge about what works, when it works, and for whom.

CHAPTER III

PART 2. THE INTERACTIVE PHASE OF READING INSTRUCTION

A. ORGANIZATION OF PART 2

B. STRATEGIES FOR PREREADING INSTRUCTION

STRUCTURED OVERVIEWS

STORY MAP

ADVANCE ORGANIZERS (PReP)

CONCEPT DEVELOPMENT APPROACH

SEMANTIC MAPS

PREVIEWS

PRETESTS

BEHAVIORAL OBJECTIVES

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READING AND UNDERSTANDING WHOLE PASSAGES

QUESTIONING SYSTEMS FOR THINKING AND READING

INFERENCING STRATEGIES

REQUEST

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D. STRATEGIES FOR POSTREADING INSTRUCTION

ORGANIZATION OF PART 2

Ringler and Weber (1984) divide interactive teaching into three sequential phases--prereading activities, reader-text interaction, and postreading activites. All reading teachers know these phases well, since they are typically incorporated into the directed reading lessons of basal readers. Teachers of other subjects know them, too, because they are so frequently used in reading in content areas, for example, the social studies. Many of the instructional strategies we summarize in this section include prereading, reading, and postreading steps, and teachers should be aware of them as integral parts of the reading lesson. We will not always isolate these steps for analysis in the following pages.

Chapter III, Part 2, is presented in three parts, consistent with the three sequential phases of interactive reading instruction, so that suitable strategies can be highlighted for each phase.

Many specific teaching strategies are described in the following pages, along with suggestions about how they may be used selectively in an instructional program. In many cases, the strategies are illustrated with reading passages. Often these are taken from the 1984 New Jersey High School Proficiency Test (HSPT), Reading Section, for three reasons:

- The now-released test is accessible to all users of this resource guide, and it is not subject to copyright laws.
- Since local school districts select their own instructional materials, there is no common reading curriculum to which we can apply these strategies otherwise.
- Using the HSPT passages allows us to emphasize the important contribution which reading and comprehending whole passages can make to students' performance on tests of reading ability. Drilling students in isolated skills may sharpen their abilities to answer some test items. However, teaching them to comprehend whole passages of text will enable them to answer correctly many more, while simultaneously strengthening their reading proficiency.

The Reading Section of the HSPT is reproduced in Appendix A as a reference for users of this guide. The relationship between the instructional strategies described here and the skill outcomes tested on the HSPT is shown in a matrix in Appendix B. However, users should be aware that the HSPT reading passages are used only for practice of the strategies. We do not recommend that they be used in teaching reading. They are not full reading passages (that is, they are abbreviated). They were designed for testing, not reading instruction.

STRATEGIES FOR PREREADING INSTRUCTION

Organizing instructional events is one of the most important responsibilities a teacher has. The way the material to be learned is introduced and sequenced can affect pupils' understanding of its meaning and their attitudes about its importance. For these reasons, effective teachers expend much thought and energy in preparing pupils for reading textual matter. Research findings suggest a variety of procedures to help teachers with these tasks. Some of these prereading strategies are described in this section.

Structured Overviews

- **Use an overview to prepare pupils for the main concept or thesis and the overall organization of the reading material.**

  What is it? A structured overview is a framework of ideas in the reading. Teachers have tried overviews, usually in written form but sometimes in pictures or graphs, to present pupils with the main thesis or concept and to introduce them to new material. Overviews emphasize important points for students and condense selected material, through offering key concepts, principles, and novel or technical vocabulary, all by way of preparing pupils for the overall organization of the selection.

  How can structured overviews help? In a review of research on prereading strategies and their usefulness, Hartley and Davies (1976) found little reported research on the use of such overviews, although the long use of them in classroom activity indicates that teachers perceive them to be effective. What Hartley and Davies found suggested that a structured overview prior to reading facilitated both learning and retention. Like other prereading strategies, the effect of structured overviews probably varies with the kind of material to be learned and the abilities of the students. (The story map, to be described next, shows how overviews have become more analytical and systematic in the hands of a few reading researchers, who report positive results from their current work.)

  Here is an example:

  The example which follows is a structured overview based on Passage P, HSPT, 1984 (p. 156). To make this kind of structured overview, a teacher should follow these procedures:

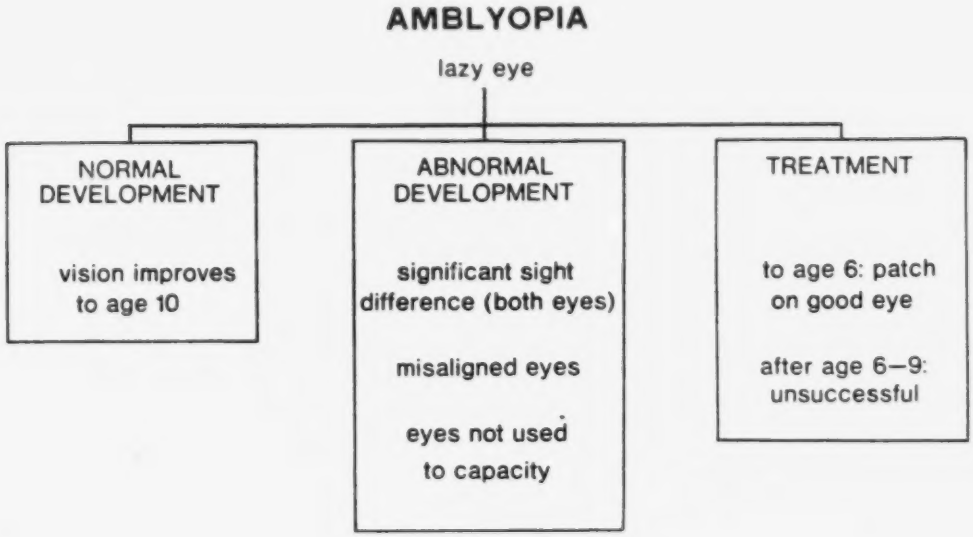
  a. Identify key concepts which students are to understand after the reading.

b. Arrange them in a diagram which permits pupils to see the concepts and their interrelationships.

c. Include concepts the pupils are already likely to know.

STRUCTURED OVERVIEW

Keyed to Passage P, HSPT, 1984.



Hills & Cohen, 1985

Story Map

- **Develop a story map and use it to prepare the reading lesson.**

What is it? A story map is a special form of overview, with the primary purpose of aiding pupil comprehension.

How can a story map help?

Beck and her collaborators (Beck & McKeown, 1981; Beck, Omanson, & McKeown, 1982) recommend a special form of overview, a story map, to aid pupils' comprehension. To make the map, the teacher identifies the underlying idea; lists the ideas and events that are essential to the plot, including those to be inferred; and shows the linkages among the supporting ideas and events. The resulting list or chart serves as a guide in the development of the lesson plan. The lesson should include an orientation to each of the main story events, designed both to connect the content to pupils' prior knowledge and to build expectations for what they are going to read.

Following periods of silent reading, the teacher asks questions which are designed to help the pupils construct a conception of the whole story as formed by its separate but related parts. Beck's studies have shown that pupils are then more likely to recognize the key ideas, to remember them better, and to answer questions of comprehension more accurately. Both skilled and unskilled readers have been helped by this strategy. It has helped the less skilled to develop more efficient overviews of the reading selection and to deal with the central content better. It has helped more skilled readers, who are already good at developing overviews, to understand the non-central story ideas and events more fully.

Here is an example:

The following story map is an analysis of the central and non-central events and the linkages among the content elements, literal and implied, for the myth of Zeus. To make the map, the teacher identifies central events on the basis of four criteria (Beck, et al., 1981, 1982), which are:

1. Are they causally or purposefully related?

2. Do the connected events lead from the beginning to the end of the story?

3. Was the event caused by something in the past?

4. Does the event interrupt or change something that was happening already?

5. Was this event made possible by something that occurred before?

When most of the answers are affirmative, the teacher knows that the events in question are more central than others. The central event sequence, along with the implied content, comprises the story map, upon which the teacher can develop the directed story lesson.

STORY MAP

Keyed to a Greek myth about Zeus. (Evslin, B., Evslin, D., and Hoopes, N. The Greek Gods. New York: Scholastic Book Services, 1966)

Central Event Sequence

Cronos, son of Oranos, kills his father and becomes king of the gods in his place. Oranos predicts the same fate for Cronos. Wary of this prediction, Cronos eats his offspring, until Rhea, his wife, hides her newborn son Zeus.

Eventually Zeus returns and, together with Rhea, prepares a drink which causes Cronos to vomit up all his swallowed offspring. A battle ensues, with Cronos and his Titans against Zeus and Cyclopes and the Hundred-Handed Ones, who were monsters imprisoned by Cronos long before.

Zeus is triumphant over his father and is made king of the gods by his brothers and sisters.

Implied Content

The myth suggests that we cannot go against fate. Cronos tried to avoid the fate prophesied by his father, but Rhea, in saving Zeus, helped to fulfill the prophecy. Zeus battles his father and wins, dethroning Cronos, just as Cronos had done to Oranus.

Gods, although immortal, are like humans in their emotions and actions. However, some of their actions might seem immoral, for example, Cronos' swallowing his children.

Questions Which Systematically Pattern the Flow of the Story

Why did Cronos kill his father?
What predictions did Oranos make about Cronos?
How did Cronos attempt to prevent the prediction from coming true?
Why did Rhea hide Zeus?
How did Zeus defeat Cronos? (and so on)

Advance Organizers (PReP)

- **Use "advance organizers," but do so with care!**

What is it? An advance organizer is a label or other kind of cue which announces to readers that new information is coming and helps them to prepare for it.

How can advance organizers help?

As Hartley and Davies (1976) explain, the research on advance organizers has been confused by the fact that there is no generally accepted way to generate them or even to recognize one! Two types have been identified--expository organizers, which explain the relationship of new material to be learned to what the pupils already know; and comparative organizers, which help pupils discriminate between the new concepts and the familiar, despite their similarities. The purpose of advance organizers is to give a conceptual framework to help the student understand the task at hand, not to give a summary, state a learning expectation, or test current level of knowledge. Their best documented success has been with college students and high-ability school pupils. Less able students have not appeared to receive much help from them. It is worthwhile noting that, for some content reading, pictorial organizers like graphs and maps have been more effective than expository organizers.

Langer (1982) has elaborated upon the concept of advance organizers in a prereading plan she calls **PReP**. It is designed to help the teacher assess the level of prior knowledge students have about matters pertinent to the passage and to introduce information necessary to their understanding. Langer's approach will constitute the example of advance organizers given here.

Here is an example:

There are three phases to Langer's prereading plan--

1. First phase -- "Initial Association with the Concept"

2. Second phase -- "Reflections on Initial Association"

3. Third phase -- "Reformation of Knowledge"

Langer's system also provides for an analysis of the amount of prior knowledge students demonstrate in their responses, whether much, some, or little. The teacher's diagnosis and the students' engagement with the concepts form the basis for effective teaching and learning in the interactive portion of reading instruction.

PReP

Keyed to Passage K, HSPT, 1984 (see p. 151.)

The Three Phases

1. Initial Association with the Concept of Fault

   a. Ask the students to tell anything they think of when they hear the word fault.

   b. Write the responses on the chalkboard.

   c. Take care to elicit responses from as many students as possible.

2. Reflections on Initial Association with the Concept

   a. Ask the students why the term fault makes them think of their particular responses.

   b. Encourage them to become aware of the links among their ideas.

   c. Promote a discussion in which their listening and sharing may lead students to modify their ideas and become aware of those changes.

3. Reformation of Knowledge about the Concept of Fault

   a. Ask students to state any different ideas they now have about a fault, as a result of the discussion.

   b. Elicit from them statements about any changes in what they now associate with the term.

Classifying Levels of Prior Knowledge

Teachers may find that there are widely differing amounts of prior knowledge among the students, as demonstrated in their initial responses.

Level 1. Some students may demonstrate much prior knowledge.

a. Do they know a superordinate category for fault? (For example, it is a geological feature of the Earth.)

b. Do they know its precise meaning? (It is defined as a displacement or movement of two masses of rock separated by a break in the Earth's crust.)

c. Can they suggest a substitute term or compare fault meaningfully? (For example, an analogy might be that a fault is like the break line when you fracture a bone or crack a plate in half.)

d. Can they link fault with a similar concept? (A fault is similar to a joint, which is a crack dividing a large mass of rock, in that both are break lines in the rock forming the Earth's crust.)

Level 2. Some students may demonstrate some prior knowledge.

a. Do they know a specific example from the class of faults? (For example, the San Andreas Fault of California.)

b. Do they know any attributes of a fault? (For example, fault planes are the surfaces of the separated rock masses, which rub against each other under pressure.)

c. Do they know characteristics of a fault which help to define it? (A fault is a fracture; it affects the surface of the earth, etc.)

Level 3. Some students may demonstrate little prior knowledge.

a. Is what they know peripheral to the concept of fault? (For example, "California.")

b. Do they have only information based on morpheme structure -- prefixes, or root words? (This is not applicable to our example.)

c. Do they think of terms that sound like fault, but are unrelated in meaning? (For example, "fault" as a weakness or mistake.)

d. Do they associate fault with some firsthand experience which is actually peripheral? (For example, a newspaper or TV report.)

If the students demonstrate much prior knowledge, the lesson can proceed to reader-text interaction. If they have some or little, the teacher should spend proportionately more time and effort in preparing them for reading.

Concept Development Approach

- **Extend pupils' vocabulary by building upon what they know.**

What is the concept development approach? This approach to vocabulary-building emphasizes meaning of terms in relation to other terms and ideas.

How can it help?

Reading comprehension always requires a bridge between what the reader knows and the new information. Pearson (1982) ranks the vocabulary of meaning as more important than the word recognition vocabulary. Based on research findings of its benefits, he recommends that new words and terms be introduced through a concept-development approach, not through definitions and use in a sentence.

Here is an example:

These steps may be used to present new vocabulary (Peters, 1975-76):

1. Describe the concept, giving relevant attributes.
2. Describe what it is not, giving irrelevant attributes.
3. Give examples of what it is not.
4. Guide the pupils in identifying the relationship the concept has to other concepts. That is, to what is it superordinate, coordinate, and subordinate?

CONCEPT DEVELOPMENT

Keyed to Passage P, HSPT 1984 (See p. 156.)

1. Amblyopia is a condition in which one of a child's eyes is weaker than the other one, continues to become weaker, and never develops fully unless treatment is begun early.
2. It is not a condition of the eyes which makes a person near- or far-sighted; or a condition which is likely to get better without treatment.
3. It is not something that happens to all children; it is not something that children necessarily grow out of.
4. Amblyopia is a kind of poor vision. (Subordinate relationship)

Both amblyopia and hyperopia (far-sightedness) are kinds of vision defects. (Coordinate relationship)

One underdeveloped eye and a patch treatment for it are associated with amblyopia. (Superordinate relationship)

Semantic Maps

- **Study semantic maps for ideas to help pupils build vocabulary.**

What is a semantic map? It is a diagram which illustrates the relationships of a concept.

How can it help?

Pearson and Johnson (1978) and others have drawn diagrams or maps to analyze and illustrate the interrelations of concepts. A study of these maps can help teachers think of additional ways to help students build vocabulary.

Pearson (1982) stresses the importance of a pupil's ownership of the meaning of a word. The emphasis should be on how the word fits into the reader's store of meaning. The reason for this is the way human beings learn: the new is learned only in relation to prior knowledge. How is the new word like what the reader already knows? How is it different and unique? How does knowing the new word alter what the reader knew before?

Here is an example:

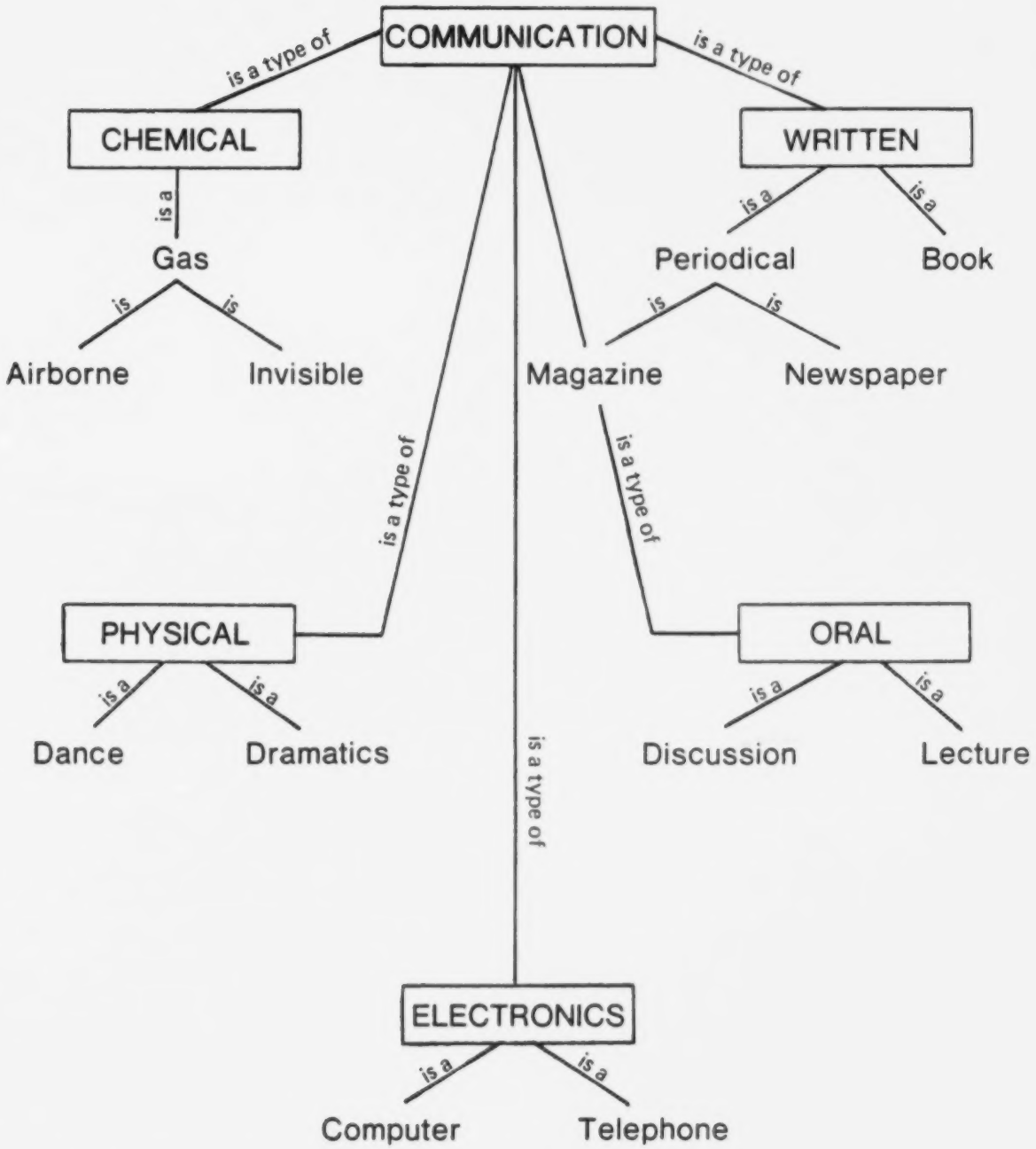
To develop a semantic map, the teacher should decide on the important concepts and vocabulary to be taught.

In class, the teacher should ask students to think of as many words or ideas that relate to the concept of communication as possible. It may be necessary for the teacher to help in the beginning. These should be listed on the board.

The example which follows is an incomplete semantic map for the concept of communication. It illustrates the kind of diagram which might be developed during classroom discussion.

SEMANTIC MAP

Keyed to Passage F, HSPT, 1984



Hills & Cohen, 1985

Previews

- **Try using a preview prior to pupils' reading the material.**

What is it? The preview is actually a structured outline of the reading assignment and some specific information about the content, written with an effort to relate it to the pupils' prior experience.

How can a preview help?

Graves and colleagues (Graves, Cooke, & LaBerge, 1982) had good results from presenting previews of the reading material to low-achieving junior high pupils. Previews can be made for all kinds of reading selections, and, like Beck's story map, they include key elements of the plot or thesis, an introduction of characters, notes on the mood or viewpoint, necessary vocabulary, and brief explanations of novel concepts. When Graves and the others used them for potentially difficult stories assigned to eighth grade readers with reading problems, those pupils performed better on a number of measures. Through tests and oral questioning they exhibit literal and inferential comprehension, recall of the main elements of the previews, and recall of new story elements which had not been presented there! Apparently the previews heightened pupils' attention to both central content and related ideas.

Here is an example:

Graves identifies two major components of a preview: a background information section and a section containing specific information about the story. The background information section provides a framework for understanding the story, which introduces difficult concepts and links this information to the student's prior knowledge. The other section contains information about the story itself, including setting, characters, point of view, and plot. The example which follows is a preview based on Passage L, HSPT, 1984.

A PASSAGE PREVIEW

Keyed to Passage L, HSPT, 1984 (See p. 152.)

People leave their homes for many reasons. One is to go to college or law school. Often they find

themselves in a different environment, a world they never knew existed. Most people adjust -- you would never know they weren't natives. Even though they adapt to their new surroundings, they may be longing to return to their original lifestyle. People who have lived only in one place their entire lives have no understanding of another way of life. Living in a city, with all its noises, crowds, restaurants, movies and places of interest, is very different from living in the country. How many of you have moved to a place that was much different from where you lived before? How did you feel when you first moved? Now? Would you like to move back? Why?

You are going to read just such a story today. Harry moved from the Pine Barrens of New Jersey to Boston, a very large city in Massachusetts, to study law. Harry's friend, who enjoys living in Boston, wants Harry to stay and practice law with him. He thinks Harry is comfortable living in Boston. Harry would rather practice law where he feels more comfortable. He takes his friend to visit the Pine Barrens. Much to the friend's surprise, he finds the area inhabited by wildlife and rich with vegetation. Harry tells his friend his concern for the area's endangered species and for the future of the Pine Barrens. Harry is also concerned that new development would destroy the natural beauty. His friend now understands why Harry would never live in Boston.

There are some words I would like to define for you. Harry is a native of New Jersey. This means he originally came from New Jersey. There are 80 bird species in the Pine Barrens. This means that the birds are put in categories according to certain characteristics or things they have in common. He was concerned about the area's endangered species. This means that the different kinds of animals in the Pine Barrens might not continue to exist.

Pretests

- **Consider a pretest to alert pupils to what is coming.**

  What is it? A pretest is made up of direct or implied questions which sample the kind and amount of relevant information pupils already have on the subject of the reading matter.

  How can a pretest help? From research on the use of pretests, Hartley and Davis (1976) concluded that pretesting can increase pupils' understanding of their task, help them structure their learning, and enhance their memory of what they learned. Pretests are apparently more effective with fairly mature pupils or those of high ability, and they work better when they involve more difficult questions and when pupils receive adequate feedback on their performance.

  No example is offered here, since almost all teachers have used pretests at one time or another.

Behavioral Objectives

- **Use behavioral objectives to help pupils monitor their progress against criteria.**

What are they? Behavioral objectives are statements about what the learner will know or be able to do after engaging in the assigned task.

How can behavioral objectives help? Few teachers today have not been influenced by behavioral objectives. Most of us have used them to implement aims which might otherwise be intangible. When students are informed about them and know how to use them in their own learning, behavioral objectives have been found to help by providing a goal for which they can organize their learning (Gagne & Rothkopf, 1965).

In their review, Hartley and Davies (1976) report that behavioral objectives do not seem to help all students equally. They help significantly when students know about them, especially in traditional-type tasks, such as learning from narrative or expository material. They are less effective when the learning task is in itself carefully delineated into steps, for example, following explicit directions. They seem to help in learning tasks which require higher-level thinking skills, such as analysis, synthesis, and evaluation, but not with those which require knowledge and comprehension. Pupils most helped by them seem to be those of middle ability and those who are somewhat independent and assertive.

No example is necessary, since instructional materials are rife with behavioral objectives.

All these prereading strategies for teachers to use at the outset of the directed reading lesson have in common their emphasis on two aspects of thinking:

1. **Assimilating new information to present concepts.** Comprehension and recall are strengthened if the pupils are helped to recognize the way in which the new learning relates to something they already know and understand well--something which has meaning for them.

2. **Accommodating current understanding to include new information.** Statements which activate anticipation of the new, prepare the pupil for it, and introduce difficult terms and concepts provide a "learning set." They facilitate comprehension and recall because they help pupils understand the ways in which the new concepts to be learned are different from what they already know, making possible higher levels of knowledge. (See Piaget & Inhelder, 1969).

From their studies, researchers have concluded that these kinds of prereading strategies can have a positive effect on children's learning, both for skilled and unskilled readers, although the lower achieving students appear to receive most benefit in comprehension and recall. Structured overviews seem to be particularly promising. They serve as cognitive organizers, and they help with comprehension and recall for weeks after the original reading lesson (Earle, 1969). Time and effort spent in these organizing strategies appear to be well spent.

STRATEGIES FOR READER-TEXT INTERACTION

Reading and Understanding Whole Passages

After the teacher has helped the students activate their thinking about the content of the reading to come, they are ready to engage the text. Teachers must be very active in this phase of instruction. Most of the strategies described in this section illustrate heavy dependence on questioning techniques, in order to focus and maintain attention, further students' understanding, and keep them thinking about what they are reading. Questioning techniques are among the most frequently used strategies to help readers interact with text. This being the case, let us begin with a comparative look at several questioning systems, all applied to the same reading sample.

As before, we will use a passage from the 1984 HSPT. Users of this guide should note, however, that the brief HSPT passages do not permit a demonstration of the flexibility and comprehensiveness of these questioning systems. For their full potential to be realized, teachers should apply them to the whole reading passages in basal readers or other reading texts.

Following the description of the questioning systems, there are other instructional strategies to help students read and understand whole passages. These, too, are exemplified by use of specified HSPT passages.

Questioning Systems for Thinking and Reading

- **Try several of the questioning procedures**, alternating them for variety and for assessing their effectiveness with particular students.

What are the systems? From the many taxonomies of questioning, we have selected these which are effective with problem readers in seventh and eighth grades: the systems of Christenbury and Kelly, Gallagher and Aschner, Pearson, Sanders, and Taba.

How can a questioning system help? From a review of the research literature on questioning in the classroom, Wilen (1982) concludes that questions can provide structure and direction to lessons; questions keyed to students' abilities can enhance understanding, reduce anxiety, and encourage active participation. Questions requiring varied levels of thought can help teachers assess students' understanding and give them practice in higher-level thinking processes. Practice in answering different kinds of questions may sharpen students' awareness of their own answering strategies, particularly when teachers are prepared to coach and probe (Pearson & Johnson, 1978). Students also appear to derive benefits from learning to ask questions themselves.

In using the structured questioning systems, teachers word questions carefully and guide students' practice in answering; in this way, they attempt to determine the kind of thinking the students must do. Simply asking a question at a specific level of a taxonomy does not ensure thinking at that level. It is the guided practice and feedback which help students achieve the desired level of thinking.

Here are examples of the five systems, all keyed to Passage L, HSPT, 1984 (see p. 152). A brief description of distinguishing characteristics is offered with each.

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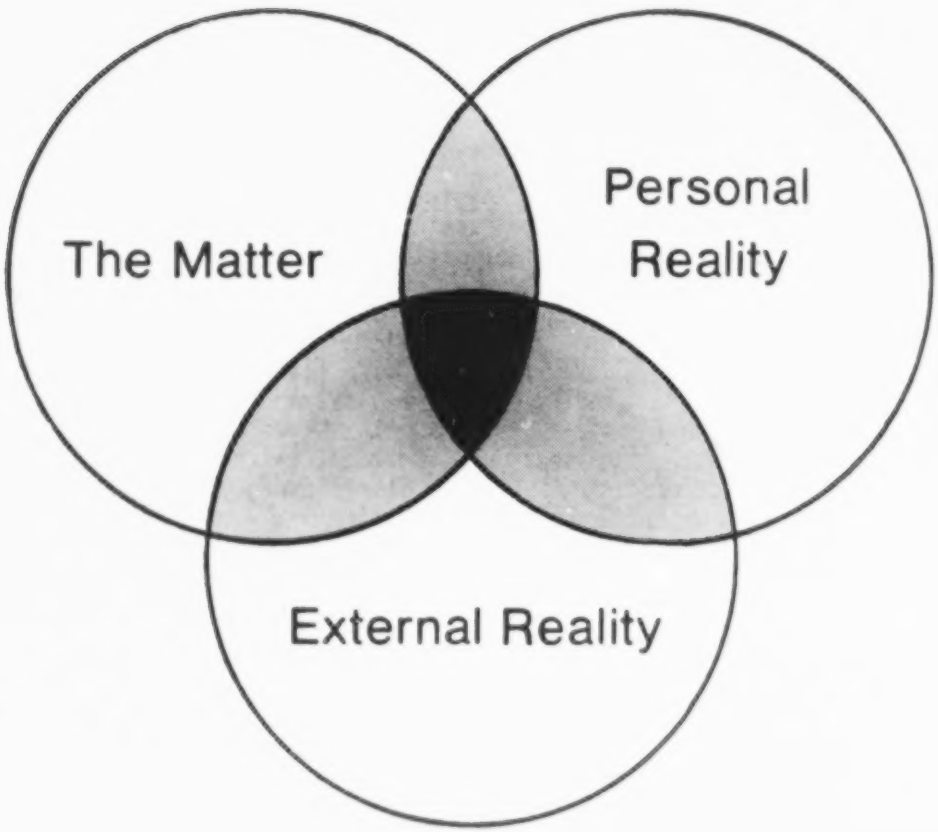
CHRISTENBURY AND KELLY

Unique Characteristics. The system of Christenbury and Kelly (1983), involves a "questioning circle" (see p. 52) which includes three separate and overlapping sources of knowledge. The three areas are: matter, that is, the subject under discussion; personal reality, or the person's experiences, ideas, and values; and external reality, encompassing the history or experiences of other peoples and cultures, or the world outside the reader. Christenbury and Kelly represent this concept with the Venn diagram as shown.

THE QUESTIONING CIRCLE



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(Christenbury & Kelly, 1983, p. 13)

To respond to questions asked about all possible areas, students must use a range of thinking levels. Simpler questions, which the authors label "white" questions, can be devised to tap information from each area individually, for example, personal reality. "Shaded" questions, to use the authors' term, are drawn from the areas of overlap between two sources of knowledge, that is, matter and personal reality, personal and external reality, or external reality and matter. The most complex questions, or what the authors call "dense" questions, are drawn from the area where all the knowledge sources overlap, that is, the intersection of matter, personal reality, and external reality. Christenbury and Kelly do not recommend a particular order for their questioning cycle.

"White" Questions (those related to one source of information)

1. The Matter: Why was Harry's friend surprised to see where Harry wanted to practice law?

2. Personal Reality: Would you like to live near the Pine Barrens?

3. External Reality: How do people in the United States feel about developing areas like the Pine Barrens?

"Shaded" Questions (those related to two overlapping sources of information)

1. The Matter/Personal Reality: Under what circumstances would you live in an area like the Pine Barrens?

2. The Matter/External Reality: What are the environmental issues and laws of New Jersey for developing the Pine Barrens area?

3. Personal Reality/External Reality: What do you feel are the problems in the development of new communities in the Pine Barrens area or other wilderness areas?

"Dense" Question (those related to all three overlapping sources)

1. The Matter/Personal Reality/External Reality: How do you think most people feel about developing residential communities in our remaining wildlife areas?

GALLAGHER AND ASCHNER

Unique Characteristics: The system of Gallagher and Aschner (1963) is based on J.P. Guilford's model of the intellect (Guilford, 1956). Questions are designed to tap lower-order thinking and move beyond to convergent thinking, divergent thinking, and evaluative thinking. The different questioning levels require the intellectual processes indicated.

Questions for Cognition-Memory (Requiring recognition, rote memory, and selective recall in order to reproduce facts, information, and the like.)

1. Who are the main characters in the story?
2. Where does Harry intend to practice law?
3. How large is the area of the Pine Barrens?

Convergent Thinking (Requiring analysis of information so that a tightly-structured framework of information and questions leads to an expected outcome)

1. Retell the story in your own words.
2. Why didn't Harry want to settle in Boston?
3. Why is Harry concerned about new development near the Pine Barrens?
4. What would be necessary to save the Pine Barrens from developers?
5. What changes may occur if development progresses?
6. What would result if development went too far?

Divergent Thinking (Requiring analysis of information so as to produce a novel or different outcome resulting from the student's own point of view)

1. What laws could you propose to protect the Pine Barrens?
2. What should be done to protect the environment and to develop new communities in the future? Why?
3. How would Harry have felt about the development of the Meadowlands?

Evaluative Thinking (Requiring that students make a judgment, select an option, and/or assign a value)

1. Do you think Harry's concern for the environment is justified? Why?

2. Do you think that progress of this kind is good? Why?

.....

PEARSON AND JOHNSON

Unique Characteristics: Instead of a questioning hierarchy based upon ascending levels of cognitive complexity, the system of Pearson and Johnson (1978) employs questions directed either to the reading text or to the students' prior knowledge. Students can be taught descriptive labels which help them understand what they must do to answer correctly. Labels include: "Right There," for textually explicit questions which can be answered directly from text; "Think and Search," for textually implicit questions which require inference from the text; and "On My Own," for scriptually implicit questions which must be answered from the pupil's own knowledge. (See also Pearson, 1982).

Textually Explicit ("Right There." The question and the answer may be found in the text directly.)

1. Who are the main characters in the passage?

2. How large is the Pine Barrens area?

Textually Implicit ("Think and Search." The question and answer are derived from the text, but at least one step of logical reasoning or inferring is necessary to arrive at an answer.)

1. Where does Harry's friend want to practice law?

2. Why didn't Harry want to practice law in Boston?

Scriptually Implicit Questions ("On My Own." The question is related to the text, but the reader must infer the answer from prior knowledge combined with the textual information.)

1. Why is Harry concerned about new development near the Pine Barrens?

2. How is Boston different from the Pine Barrens?

Question "Slicing"

According to Pearson and Johnson, the reader needs to have prior knowledge (or a "script") about what a housing development is like and how it would affect the environment in order to answer a question about why Harry might be concerned. As for questions about differences between Boston and the Pine Barrens, the reader needs a script of an urban area, since the Pine Barrens is described, but

urban Boston is not. Students who lack adequate scripts or have difficulty in drawing logical conclusions between segments of the text will have problems in answering questions other than textually explicit ones.

In such cases, a teacher can help by "slicing" the question into more manageable cognitive tasks. First, the question can be changed to address a smaller part of the larger issue. For example, "What is the Pine Barrens like?" could be stated as "Who can think of wildlife that might be found in the Pine Barrens?"

Second, the question can be changed so that students are asked to recognize, rather than recall. For example, the question, "What is the Pine Barrens like?," can be changed as follows, "Let me give you some possibilities. Do you think there are reptiles, amphibians, or mammals in the Pine Barrens? Is there any vegetation in the Pine Barrens? Can you give any examples?"

Another method is to change the focus of the question. If a student cannot answer or is reluctant to answer a question, the teacher could ask a question for which there is no correct answer. An opinion question is a good example. However, the teacher must accept the opinion and not require the student to state facts from the text.

Pearson and Johnson argue that the questions teachers ask can be quite deceiving. If the student does not have the prior knowledge (scripts) or cannot draw logical inferences between parts of the text, then questions which the teacher considers literal in nature are not literal for that student. Asking a student to go back to the text to find the correct answer will not help. The student needs to be taught either the background information or how to draw inferences. Sometimes a teacher's scripts are too well-established. What seems to be textually implicit might not be to the students at all. The teacher needs to analyze carefully and critically the information that the students have internalized.

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SANDERS

Unique Characteristics: Sanders (1966) based his hierarchical system on Bloom's taxonomy of intellectual complexity (see Appendix C, p. 181).

Memory Questions (Calling for recognition or recall of information)

1. Who are the main characters in the story?

2. Where does Harry intend to practice law?

Translation Questions (Calling for changing a communication to a parallel form)

1. Retell the story in your own words.

Interpretation Questions (Calling for relating facts, generalizations, definitions, values, and skills)

1. Why didn't Harry want to settle in Boston?

2. Why is Harry concerned about new development near the Pine Barrens?

Application Questions (Calling for transfer of knowledge to new or different situations)

1. From what you know about Harry, explain how he would feel about practicing law in Atlantic City.

2. What would result if development went too far in the Pine Barrens?

Analysis Questions (Requiring the student to solve a problem by consciously using knowledge of parts and processes of reasoning)

1. What are the author's opinions about Harry in this passage?

2. What reasons might people give for wanting to live near the Pine Barrens?

Synthesis Questions (Involving creative thinking, made possible by a classroom atmosphere in which divergent opinions are accepted and welcomed)

1. What laws could you propose to protect the Pine Barrens?

2. How do you think Harry would have felt about the development of the Meadowlands?

Evaluative Questions (Calling for students to make a judgment based on use of implicit or explicit criteria)

1. Do you think Harry's concern for the environment is justified?

2. Do you think that progress of the kind taking place in the Pine Barrens is good? Why?

.....

TABA

Unique Characteristics: The Taba system is arranged in three cognitive tasks of ascending difficulty, that is, Concept Development, Interpretation of Data, and Application of Principles (Taba & Elzey, 1964). Within those tasks, there are several levels of thinking which are guided by the teacher's questions. These are shown below under the cognitive tasks.

Cognitive Task I. Concept Development (Requiring differentiating, identifying common properties, and determining order)

1. List -- What can you tell me about New Jersey?

2. Group -- What facts seem to belong together? On what basis?

3. Label -- What would you call each of these groups?

4. Subsume -- Are there other items that could go into these groups?

5. Multiple-Classification -- Are there any items that can go into more than one group?

Cognitive Task II. Interpretation of Data (Requiring differentiating between relevant and irrelevant, inferring cause and effect relationships, and generalizing and inferring implications)

1. Recall the Concepts -- What did you notice about the two places, Boston and the Pine Barrens?

2. Compare and Contrast -- Describe the similarities and differences between the two.

3. Generalize -- How do you account for these differences?

4. Verification -- Can you think of other illustrations of how development affects environments?

Cognitive Task III. Application of Principles (Requiring analyzing, determining causal links, and reasoning logically)

1. Making Predictions -- If new communities were developed in the Pine Barrens, what do you think would probably happen?

   Can someone give a different prediction? (This question is designed to encourage divergent thinking.)

2. Support or Explain Predictions -- What makes you think that would happen?

   What (conditions) would it take for that to happen?

3. Making Wider Predictions -- If (fellow student's) prediction came true, what do you think would happen after that?

   Or - If major new developments began in the Delaware Water Gap area, what do you think would happen to the environment? Why do you think so?

Counterparts to these questions may be asked from the affective domain, focusing on Harry's feelings about remaining in Boston or returning to the Pine Barrens; about the feelings of the narrator; about how students might feel if they were faced with this kind of choice; and so on.

The foregoing questioning strategies can be applied to reading as well as other areas of instruction. They can also be combined with many other instructional approaches, some of which are described in the following pages.

Inferencing Strategies

- **Teach pupils how to draw inferences, step by step.**

  What is the strategy? It is a systematic method for teaching students how to draw inferences, through teacher demonstration and guided student practice.

  How can it help? Specific, step-by-step instruction in strategies for drawing inferences helps pupils in inferential comprehension, as we might expect, but it also helps their literal comprehension (Pearson, 1982). Some studies have shown that strategy training benefits problem readers more than good readers, thus providing the assistance to the pupils who need it most. Pupils trained in this systematic method become able to transfer the strategy to new reading assignments.

  No specific example is given. Instead the steps in the strategy training program are shown below. Teachers may follow one of the questioning sytems to develop model inferencing questions based on a passage in student reading materials.

  1. The teacher demonstrates how to answer an inferencing question -- asking it, answering, showing pupils how to find clues in the text.

  2. Next, the teacher asks the question, answers it, and directs the pupils to find supporting textual clues.

  3. Then the teacher asks the question, suggests where the information can be found, and has the pupils answer.

  4. The teacher asks the question, and the pupils do all the rest.

ReQuest

- **Use ReQuest to help students set purposes in reading and ask questions for themselves.**

What is it? ReQuest was developed by Manzo (1969) for students of all ages. In the procedure, the teacher and a student read parts of the selection silently and ask each other questions about the passage, alternating roles of questioner and responder. It may be used in a group situation with students taking turns at questioning and answering or in a one-to-one situation with an individual.

How can it help? Through the steps of ReQuest, the teacher is able to demonstrate good questioning and to give feedback to students on the questions they ask. Since the procedure is based on alternation of roles, teachers can control timing of questions and length of section, in response to what they observe in the students' performance. Use of ReQuest can help students develop an inquiring mind in regard to reading and improve their comprehension (Tierney, Readence, & Dishner, 1980).

Here is an example:

REQUEST PROCEDURE

Keyed to Passage G, HSPT, 1984 (See p. 147.)

Preliminary Steps

a. Select appropriate material for making predictions and identify in advance the points at which students might be asked to predict what will happen next.

b. Prepare the students for the procedure by describing what you and they will be doing during the procedure. Carry out other appropriate preinstructional steps.

Steps in Developing Students' Questioning Abilities

Take turns with the student(s), asking each other questions about what you both have read silently. Following these steps:

a. The teacher and students both read a section silently.

b. A student questions the teacher, who has closed the book. Besides answering the questions, the teacher can also reinforce good questioning behavior by asking for clarification, praising good questions, and giving constant feedback.

c. Teacher and students (or student and student) exchange roles, with the responder having the book closed. When it is the teacher's turn to question the student, the teacher should use various types of questions that build upon the student's prior knowledge or require the student to integrate or synthesize the information read. The student should be challenged when answering the questions.

Typical questions for the first paragraph for passage G might include:

Sentence 1

- Who is Minnie?
- Who is telling the story?
- What do you think "without a needle in her hand" might mean in this sentence?
- When might Minnie have lived? What do you think life might have been like for Minnie?

Sentence 2

- How did Minnie make her family's clothes?
- Who bought her the sewing machine? When?
- How is the sewing machine of today the same or different than Minnie's sewing machine?
- How do you think the sewing machine changed Minnie's life?

Steps in Developing Students' Predicting Abilities

Continue the questioning procedures until the students have read enough of the section to make a prediction about the outcome, and then follow these steps:

a. The teacher terminates the questioning at that point, asking the students to make a prediction.

b. If the teacher deems the predictions plausible, the teacher and students silently read the remainder. If not, the questioning is resumed as above.

At the end of the first paragraph is an appropriate point to ask the student to try to predict what might take place in the remainder of the story.

The student(s) should be asked: "What do you think will happen?" "Why do you think so?" "Can you find any support for your prediction in what we have read?"

A list of predictions should be developed by the student(s) and then ranked from the most likely to the least likely to occur.

Silent Reading

a. Students read the remainder to determine if their predictions are correct.

b. The teacher reads also, but is available to assist students as necessary.

Follow-up Activities

As a follow-up to the reading, students' predictions and the actual outcome of the story should be discussed. The student(s) could be asked to tell the point in the story that revealed the eventual outcome to them (if the prediction was not the same as the outcome). The teacher may have the student(s) change the events so that their predictions are correct. Students may be asked to decide which invention has changed their lives and then write about it or imagine a future invention which might change their lives.

Guided Reading Procedure--GRP

- **Guide the reading of pupils by requiring them to read for a purpose, recall the ideas, and organize them.**

What is it? The Guided Reading Procedure or GRP, as developed by Manzo (1975), is a systematic series of steps through which teachers guide students in a group to read and recall what they have read, organize it into main ideas and supporting details, and remember the material.

How does it help? Often in both reading and content classes, teachers want students to read information, remember it, and relate it to other areas of knowledge. The GRP procedures help students fulfill these objectives (Tierney, Readence, & Dishner, 1980). The effectiveness of the GRP results from several components which are critical to comprehension: a clear purpose in reading, a requirement to recall immediately, a chance to think through the information and organize, confrontation with the conflicting or supporting ideas of other students, and follow-up testing of recall and understanding. The GRP is highly appropriate for junior and senior high school students.

Here is an example:

GRP

Keyed to Passage F, HSPT, 1984. (See p. 146.)

Preliminary Steps

a. Select appropriate material, sufficiently short so that most of the students can complete the reading required in one directed lesson.

b. Prepare the students for the procedure by making sure that they understand their purpose in reading, and carry out appropriate prereading steps.

Steps for Student Reading and Recall

Confirm that all the students understand that they are to remember as much as possible of the information. Then follow these steps:

a. Students read the whole passage silently, receiving necessary assistance with problems. When finished, they place the book face down and wait for the others.

b. The teacher asks students to recall freely, while he/she records the ideas on a chalkboard or chart.

c. When they can recall no more, the students turn to the material again for more information and for desirable corrections.

d. The teacher records the additions and changes.

Steps to Organize the Information

Direct the students to think and solve problems by organizing the information and its relationship to their existing knowledge base.

a. The teacher helps students to outline the content by identifying main and subordinate ideas, by locating general and supporting statements, or by tracing the sequence of events or ideas.

b. The teacher designs and uses questions to help students relate the new information to what they already know about the content area, requiring application and synthesis of ideas.

A modified outline developed on hypothetical student input after reading Passage F, HSPT, 1984, follows:

DO TREES COMMUNICATE?

I. Scientific Studies in Finland
   A. How a catalpa tree reacts to insects when attacked
      1- stops producing fruit on that branch
      2- saves energy for other branches
   B. Trees change chemically
      1- when insects are near
      2- thought to change so as to taste bad to insects

II. Scientific Studies in America
   A. Other trees change, too,
      1- even if hundreds of feet away
      2- before being attacked themselves
   B. Scientists suspect message
      1-transmitted from wounded tree through the air
      2- related to chemical change
      3- may be a gas carried through the air
      4- nearby trees have ability to detect gas

The teacher should now relate the new information to information the students have previously learned, through questions such as:

1. How does this information relate to the information on communication we studied last week?

2. If the tree has no brain, how can it process the information it receives? Where does the tree receive the information? What did we learn about other living organisms that might help us with an answer?

Follow-up Activities

As a follow-up to the reading, the teacher may wish to present a quiz to assess the short-term memory of individual students. Depending on the instructional objectives, testing may be desirable later also.

Read, Encode, Annotate, Ponder--REAP

- **Require pupils to communicate ideas they have gotten from their reading.**

What is it? Read, Encode, Annotate, Ponder (REAP) is a technique to encourage students to share the ideas they encounter in their reading. In REAP (Eanet & Manzo, 1976), teachers lead students through four stages: 1) they read to find the author's theme; 2) they encode those ideas into their own words; 3) they annotate them in writing; and 4) they ponder the meaning of the annotation for their own study.

How does it help? REAP was designed for use with readers of junior high level and up, in either group or individual reading. Eanet and Manzo (1976) recommend it as a way to improve students' comprehension and strengthen their recall of information from the reading. Both comprehension and recall are likely to be facilitated when students restate an author's thesis in their own words and in writing, for their own later use or the use of other students. Since the procedure requires that readers recognize and state the author's theme, teachers should use it selectively with those who have developed some abilities in finding main ideas and be prepared to assist as needed while they write the annotations (Tierney, Readance, & Dishner, 1980).

Here is an example:

REAP

Keyed to Passage C, D, and M, HSPT, 1984 (See pp. 143, 144, 153).

Preliminary Steps

a. Select appropriate material. Decide what kind of annotations the students are to make -- summary, theme, critical, intention, motivation, or other.

b. Prepare the students for the procedure by describing the task and by carrying out appropriate prereading steps.

Developing the Ability to Annotate Reading Selections

Teach students to construct annotations through these steps recommended by Eanet and Manzo (1976):

a. Students read a passage. The teacher presents an annotation and leads a discussion about how it relates to the reading.

b. Students read another section. The teacher presents three annotations, one which is appropriate and two which are flawed. The teacher leads a discussion aimed at helping the students distinguish between them, recognize the correct one, and identify the reasons for their choice.

c. Students read yet another section. The teacher demonstrates the process of annotating.

d. Students practice by reading a different passage and writing individual annotations. Then, in small groups, they construct the best annotations they can cooperatively, afterwards sharing and discussing them in class.

Examples of several kinds of annotations are given below, keyed to the passages indicated in the HSPT, 1984.

Summary Annotation - keyed to Passage C

It is difficult for an American professional baseball player to be successful in Japan because of cultural differences, as well as differences in the requirements expected of the players.

Summary Annotation - keyed to Passage D

Alfred Lawson realized first the need for building a large airplane with the capacity to carry many passengers. He tried to build a Superplane, but he failed.

Intention Annotation - keyed to Passage M

The author wrote the passage to tell about a new type of pool, a leisure pool, where people can play instead of swim. The author thinks this pool is an excellent place to have fun.

Intention Annotation - keyed to Passage H

The author wrote the passage to tell about the history and importance of Astoria in film making. The author thinks Astoria is becoming a major production site again because of the modernization of the facilities there.

Thinking about and Using the Annotations

Have students use the annotations for one or more purposes, such as 1) reviewing the material read; 2) communicating their ideas and evaluations of reading materials, such as books, to others; and 3) preparing for a writing assignment, for example, a paper synthesizing from several sources. It is helpful for students to revise their initial annotations after re-reading and add their critical comments. Teachers may find the annotations useful for assessing pupil progress in learning.

Directed Reading-Thinking Activity--DR-TA

- **Direct the reading-thinking activities of pupils so that critical thinking is required.**

What is it? An approach called Directed Reading-Thinking Activities (DR-TA) is a systematic procedure through which a teacher may activate and agitate students' thinking and require them to back up their conclusions with information from their reading (Stauffer, 1977).

How can it help? Stauffer developed the procedure in the belief that reading requires readers to think through their experiences in order to understand what the author is attempting to communicate. Stauffer reports that teachers who have used this approach ask questions which require more inferences and more interpretations than usual. Their pupils respond with higher levels of thinking.

In demonstrations in elementary school reading classes, the teachers prepared questions or statements which engaged the children in these steps gathering facts; clarifying ideas; interpreting or inferring meaning; analyzing an idea or event so as to identify its components and their subordinate, coordinate, and superordinate relationships; summarizing facts and ideas and their interrelationships; and applying criteria to evaluate the accuracy or validity of the reading selection. (Wolf, King, and Huck, 1968).

The DR-TA emphasizes thinking as integral to reading and requires students to work on their own cognitive processing as they read. The DR-TA also casts the teacher into the role of moderator and facilitator of reading and thinking rather than that of director. (Tierney, Readence, and Dishner, 1980).

No specific example of DR-TA is given. Instead, its major components are outlined below.

DR-TA

1. Preliminary Steps

    a. Select suitable reading materials and plan how they might be segmented for use in the lesson.

b. Prepare the student for the procedure by appropriate prereading steps. Stauffer does not recommend that new vocabulary be introduced in advance. Note below (2.b.) how teachers are to deal with unfamiliar vocabulary.

2. Phase One: Directing the Reading-Thinking Process

a. The teacher encourages students to predict what might happen in the story or what the content will be, based upon their examination of pictures or other graphic features and titles and sub-titles. It is often best to segment the passage and elicit from students a series of predictions as the story proceeds. These establish purposes for their reading.

b. The teacher helps students to become more competent and independent in handling unfamiliar words by teaching them to use all possible contextual, pictorial, and structural clues, and to seek help when these are unavailing.

c. Students read the text portion to find out whether they predicted the content accurately, while the teacher stands by, ready to help as necessary.

d. The teacher checks for comprehension by asking questions. Students respond with books closed.

e. A new segment is read following the same procedures. As the DR-TA lesson proceeds, students begin to make similar predictions.

3. Phase Two: Skill Training

a. The teacher guides the students through a re-reading of the passage, focusing on selected features that relate to the learning needs he/she has identified.

b. The teacher instructs students in a number of specific reading and thinking skills, such as word attack, concept development, reflection, etc.

After students have become thoroughly familiar with the process, DR-TA can be used individually, as well. Such experiences enhance students' self-reliance and independent study skills.

SQ3R

- **Guide pupils in systematic study procedures, for example, the SQ3R.**

What are they? One well-known strategy, developed 40 years ago (Robinson, 1961), has spawned several offshoots and is still widely used itself. Dubbed "SQ3R," for survey, question, read, recite, and review, it consists of five steps to be followed during independent reading: (1) Surveying or previewing the material, for an overview of the content and intent of the author; (2) Questioning, for establishing purposes for reading; (3) Reading the material; (4) Reciting; and (5) Reviewing, which, with step 4, helps pupils to remember what they have read.

How can it help? Like other aspects of reading and thinking, the implications of theory and research are that pupils can and should be taught skills which will help them. Some students will not develop independent abilities to learn from text materials without systematic instruction in how to develop their own strategies. In such cases, students may profit from: specific training based on a systematic strategy; clearly understood rationales for the use of the strategy; and methods for monitoring their use of the strategy and evaluating how it is working for them.

Drawing on research which supported each step, Adams, Carnine, and Gersten (1982) studied a six-step strategy, which incorporates some of the original SQ3R procedures. Their fifth grade pupils could decode adequately but lacked effective study skills. They were given reading selections from a social studies text chosen because of its prominent and frequently-presented topic and subtopic headings and its clear organization of supporting details. The teachers instructed the pupils to follow specific steps in studying the reading assignment. Students trained in these procedures performed better on tests of the reading material and they studied longer and more efficiently than other students.

No examples are given. We recommend that teachers select content area reading assignments whenever possible.

SQ3R

1. Survey or preview. Read all the headings and subheadings. Look at all pictures and diagrams.

2. Recite subheadings. Read the subheading of a section and repeat it, checking for accuracy of the repetition. Repeat this step as necessary.

3. Question. Generate questions about what important ideas or facts should probably be learned in that section of the material read.

4. Read to find the answers to those questions and any other important information.

5. Recite. Reread the subheading; then report on the answers to the self-generated questions and any other pertinent information.

6. Review. Go back over the entire selection, rereading each subheading and, without rereading, recall the important information given in that section. If recall is inadequate, the pupil should be directed to repeat steps. This final review allows both pupil and teacher to assess whether the material has been learned.

Study Guides

- **Develop study guides for student use.**

  What is a study guide? A study guide is a "road map," based upon an analysis of the reading task, to guide the student in setting purposes in reading, reading strategically, and communicating information obtained.

  How can a study guide help? Such a guide helps the pupil set purposes for his/her reading, carry out the reading task, and report the information obtained (Herber, 1970; McClain, 1981). McClain recommends that study guides contain sections which incorporate many of the strategies mentioned in Part 2 (pp. 23–65). For example, there should be sections which activate prior knowledge, prepare the pupil for new vocabulary and new concepts, help the pupil understand the sequence and organization of the selection, require inferences, and elicit evaluative reactions.

  Here is an example:

  STUDY GUIDE
  Keyed to Passage M, HSPT, 1984. (See p. 153.)

  Preliminary Steps

  a. Analyze the reading text for appropriateness of its content and the cognitive processing it requires.

  b. Select from it the concepts and parts to be emphasized, and eliminated those which are less critical to comprehension.

  c. Decide which elements of structure the students will need in order to read and learn the passage; for example, subtitles, pages, paragraph locations, or other structural elements.

  d. Construct the study guide in accordance with your instructional purposes. Study guides may be based on levels of comprehension, levels of thinking, or other objectives. (See Readence and Dishner, 1977.)

  Two partially completed study guides are shown below, one organized by concept contrasts and one by levels of comprehension. Both are keyed to Passage M, HSPT, 1984 (see p. 153).

STUDY GUIDE FOR CONCEPT CONTRASTS

Concept	Word of Contrast	Contrasting Concept
Public swimming pools		Public leisure pools
	"difference" (paragraph 1)	"...have attracted twice as many people." (paragraph 1)
"swimmers" (paragraph 2)		"people who enjoy splashing and playing around, or ...chatting." (paragraph 2)
"traditional rectangular..." (paragraph 2)	"but not" (paragraph 2)	"whirlpools and unusual slides" (paragraph 2)

STUDY GUIDE FOR LEVELS OF COMPREHENSION

This guide is based on Herber's (1978) approach, which identifies three levels of comprehension, as follows:

1. literal -- identifying what the author has written

   Why is the leisure pool a good place to play?

2. interpretative -- inferring the author's meaning

   Why are many leisure pools instead of swimming pools being built in many European cities?

3. applied understanding -- generalizing beyond the text

   What other traditional recreational activities might be undergoing a change in the form or rules?

   Why did the author write the passage?

Outlining and Summarizing

- **Teach pupils how to outline reading passages.**

What should an outline include? An outline is a brief plan or framework of a passage, which states the problem, theme, or argument and subtopics or supporting ideas. It constitutes a plan of attack for reading to solve a problem or for writing to present a solution or outcome of the problems.

How does it help? From upper elementary grades on through high school and beyond, pupils need to read and plan in order to prepare oral and written reports, research papers, and the like. Such tasks demand a range of comprehension skills and some specific reference skills which are difficult for many. Taylor (1982) developed a summarizing strategy to help students organize information obtained from content area reading materials. After instruction in the strategy, students were able to recall more of the information than before, and they were able to produce essays and reports of higher quality.

Here is an example:

HIERARCHICAL SUMMARY PROCEDURE

Keyed to Passage K, HSPT, 1984 (See p. 151.)

Steps in the Procedure

1. Have the students preread a passage, usually three to five pages (Taylor, 1982, p. 203-204).

2. Help them begin an outline by writing a Roman numeral for all major sections with headings or for all main ideas and capital letter for all subsections. Have them leave a few lines between the capital letters for supporting details.

3. Ask the students to read the passage and write a summary of it, moving through the subsections one at a time. Help them individually and in a group, as necessary, to state a main idea in their own words and to list several supporting details.

   Have students write a topic sentence beside the Roman numeral for each section before proceeding to a new section. Help them generate key phrases for subsections which are related.

4. Have students study the material, reviewing their summaries and considering their topic sentences, key phrases, main ideas, and supporting details.

   Then ask students to work in pairs. One tells the other the information learned. The second follows the summary, reminding the first of anything forgotten.

The following is a possible summary of this kind, done with Passage K. (Note that the entire procedure is not possible with so short a passage.)

Topic Sentence I: To save people's lives scientists are trying to learn how to predict earthquakes.

A. People can be hurt or lost in earthquakes by falling buildings, floods from broken dams, and tidal waves

   - High, open ground is safer for people during earthquakes.

B. Scientists know how earthquakes occur.

   - along faults
   - stress releases when some stone gives way
   - rapid movement of plates at fault line
   - earth shakes

C. Scientists study changes in the earth.

   - changes in tilts of plates, surface cracks, gas and water in rocks
   - may help scientists learn to predict time of earthquake and give people warning.

Locating Information

- **Give practice in locating information.**

  What kind of practice helps? Information which students need is contained in many sources: organizational features of written materials, such as major subtopics in tables of contents, and the precise location or supporting details, as in the index; alphabetical listings, such as indexes, card catalogs, and the like.

  How does it help? Students have had prior practice in alphabetizing and locating terms in alphabetical order, but the necessity to use them strategically increases as they advance in school. For example, students need to be able to use a table of contents, headings and subheadings, and indexes. They need instruction in locating information on specified topics in reference books and library card catalogs. Reading authorities recommend that these skills be taught at the point of need (Thomas & Robinson, 1977). Deliberate instruction and practice helps them to study more efficiently and to organize what they recall.

  In Appendix D, pages 185-190, you will find summary descriptions of structural features of expository and narrative writing. Introducing students to these conventions will help them to locate information, sort it out in their minds, and recall it more readily.

STRATEGIES FOR POSTREADING INSTRUCTION

Since the parts of reading instruction are closely interrelated, what happens immediately after the pupils' interaction with text will follow logically from objectives established in the prereading phase and reinforced during reading. Therefore, many of the questioning and discussion strategies already mentioned extend into the postreading phase. In this regard, it is important to remember that postreading questions help retention of learning and inferential and literal comprehension.

The postreading period of instruction offers opportunities for pupils to:

- review what they have read;
- think about the meaning of the whole selection;
- practice the skills for which the lesson was designed;
- use and apply new vocabulary and concepts;
- recall new information; and
- integrate the new information with prior knowledge.

Typical learning activities for these purposes include the following for individuals, small groups, and large groups:

- oral language activities to strengthen oral language learning and oral expression and to extend and apply to new situations what pupils have learned in reading to new situations. These might include:

  -- discussions
  -- reports
  -- debates
  -- dramatics
  -- simulations;

- written follow-up tasks, which require pupils to use new vocabulary and concepts, to recall, to summarize, to apply, and so on; and

- written language activities for improving writing ability, for extending and applying information learned in reading, and for developing critical thinking skills. These might include:

  -- stories or reports
  -- scripts
  -- notebooks
  -- reviews, or summaries
  -- syntheses of information about one topic from mutiple sources.

PART 3. THE EVALUATIVE PHASE OF READING INSTRUCTION

A. PURPOSE AND PLACE OF EVALUATION IN READING INSTRUCTION

B. KINDS OF ASSESSMENT PROCEDURES

C. USE OF INFORMATION FROM EVALUATION

PURPOSE AND PLACE OF EVALUATION IN READING INSTRUCTION

The evaluative phase of reading instruction offers the teacher an opportunity to reflect on the planning and implementation which have taken place in the preactive and interactive phases. This is the time to think through the teaching and learning interactions, evaluate the products and processes which resulted, and draw conclusions about the functioning of individual pupils. Were the objectives attained? How well did the prereading activities promote pupil learning? How well did the activities of the interactive and post-reading periods facilitate, clarify, and extend learning? What progress did individual readers make in construction of meaning and in application of new information and enhanced skills?

The teacher's evaluations of these factors provide the basis for determining next steps in planning, based on knowledge of pupils' strengths and needs and the effectiveness of specific instructional strategies. In their decision-making roles, teachers use data from multiple sources to assess the worth of their planning and instruction and to decide on next steps.

Purposes of Evaluation

Observation and measurement of students' reading behavior are carried out to provide teachers with the information they need to make instructional decisions. Prereading assessment, a form of needs assessment, is applied at the outset, when the pupil and teacher are new to each other. The teacher may obtain information about the reading status of the pupil from many informal and formal sources, such as:

- tests, cloze procedures, maze procedures;
- interest inventories;
- graded word lists;
- reports of previous teachers;
- reading inventories; and
- observation and analysis of silent and oral reading.

Helpful suggestions for uses of these assessment strategies and the information they provide may be found in a number of publications (e.g., Page and Pinnell, 1979; New York City, 1981, among others).

Formative evaluation is undertaken periodically so that teachers may assess the pupils' mastery of a particular task and identify any remaining areas of difficulty. Formative evaluation samples what the pupil can do or what the pupil knows in relation to relatively small parts of the reading instruction. Experienced reading teachers know the value of collecting and analyzing many samples of pupils' reading

bahaviors. The more numerous and varied the samples, the more likely teachers are to have a reliable measure of where the pupil is in reading and how he/she is progressing.

Information from formative evaluation is used to make the longer-range instructional plan fit the evident needs of the pupils. This information can enable teachers to adjust their planning as students grow in skills and understanding and as they encounter difficulties in their reading. It is a useful tool in determining individual needs of readers.

Summative evaluation is applied at the end of a time period which has been devoted to attaining predetermined goals. This type of evaluation sums up pupils' achievement of larger outcomes (Bloom, Hastings & Madaus, 1971). Some authorities suggest that summative evaluation may be applied when students have mastered particular reading strategies and are ready to employ them independently (New York City, 1981).

KINDS OF ASSESSMENT PROCEDURES

Pearson and Johnson (1978) recommend to teachers and administrators that the data from several informal and formal assessment procedures be used to shed the most light on instructional and programmatic problems. Measurement procedures can yield important information to help teachers analyze students' needs so as to design instruction and, later, assess to the success of that instruction.

It is unlikely that one kind of assessment will be equally suitable as a basis for both formative and summative evaluation. Norm-referenced measures yield information which is helpful for administrative purposes -- summative evaluation of the total program, decisions about changes in overall curriculum, planning for reallocation of instructional resources, and identification of pupils to receive individual assessment. Criterion-referenced measures, including teacher-made instruments, can help teachers gain an overview of their classroom programs, in relation to their objectives. This kind of information can provide the rationales for decisions about such instructional issues as midstream corrections and possible changes of emphasis. Informal assessment -- teacher observations, reading samples, and the like -- allow teachers to monitor pupils' status at a given time and their progress over time.

Informal Assessment

Teachers carry out informal assessment primarily through observation of pupils' behavior with textual materials and during classroom discussion periods. Through such observation, teachers may gather information about the abilities of their pupils to cope with four levels of comprehension:

- obtaining information explicit in the text;
- making inferences from information in the text;

- making inferences by integrating textual information with prior experience; and

- synthesizing and evaluating text (Ringler and Weber, 1984).

(For detailed recommendations on constructing questions to assess pupils' learnings of the skills at differing levels, the reader is referred to Bloom, Hastings and Madaus, 1971. See also Chapter III, Part 2, in this booklet, where a variety of systematic questioning systems is described. These systems may be adapted to teachers' use in informal assessment.)

Since comprehension cannot be observed directly, the teacher must conclude whether the pupils understand by the ways they carry out such activities as the following:

- subjective reporting;

- true-false responses;

- following directions;

- supplying missing elements;

- recognizing the correct message among optional messages;

- reproducing the message from the text; and

- answering questions about the reading selection (Page & Pinnell, 1979, pp. 83-85).

Continual observation and assessment of pupil progress toward the objectives are an integral part of effective reading instruction. They make it possible for the teacher to distinguish between these possible pupil responses:

- The child does/does not know.

- The child knows but does not or cannot respond in the manner expected.

- The child knows and can demonstrate both in the manner expected and to the criterion expected.

Pupils vary over time and among themselves in the extent to which they demonstrate dependence and independence while reading. Teachers will want to consider the following:

- To what extent can the pupil respond appropriately during free recall?

- To what extent does the pupil need probed recall?
- To what extent does the pupil need structured questions in order to recall?

Clues about pupils' learning can also be found in the ways they demonstrate self-awareness and self-monitoring. How often and in what circumstances does the pupil correct him/herself? What evidence is there that individual pupils reflect on their own functioning and that of their classmates? Information about pupils' use of metacognitive strategies may be obtained through structured observation of their reading, their behavior in group discussion, and their attempts at self-criticism as they use information gained from reading.

Formal Assessment

In formal assessment, the pupil-teacher conference can provide rich diagnostic and evaluative information. In such a conference, a teacher may assign a selection for silent reading and analyze what takes place, both as the pupil is reading and as the pupil responds to questions in free recall, probed recall, and, if necessary, structured probed recall. Pupil performance should be observed and evaluated in the four levels of comprehension listed above, pp. 84-85.

The teacher may use a conference format to analyze a pupils' oral reading. In this case, the pupil will read orally without a preview, while the teacher observes and codes miscues (Goodman & Burke, 1972). Ringler and Weber (1984) offer many helpful steps and suggestions for analysis of oral reading. Although oral reading is different from silent reading in its demand on pupils, it can help teachers identify pupils' strengths and weaknesses and gauge their progress in such specific indications as self-corrections.

Tests

We live in an age of testing, and formal criterion and norm-referenced tests are probably inevitable as a part of reading instruction. Both teachers and students must learn to live with them. For this reason, it is helpful to give pupils practice with taking tests, as a way to familarize them with the task demands of tests, to strengthen their chances of demonstrating what they know and can do, and to reduce any anxiety which tests cause them. Studies of test-taking behavior have yielded numerous suggestions for teachers who want to help students develop competence and confidence in taking tests.

In Appendix A (pp. 139-176), you will find excerpts from the reading portion of the 1984 HSPT. The items from the released test can be studied for information about the way the HSPT is constructed, the format in which students must demonstrate what they know in reading, and the complexity and difficulty of representative items. Teachers may wish to use sample items to provide students an opportunity to practice

responding in the required format. Since the HSPT will be released to local districts each spring subsequent to its administration, the pool of items will grow every year, making available increasing opportunities for pupil practice.

Tests sample only a small portion of pupil achievement, and they must be considered as only a part of the evaluative efforts of teachers. As indicated, tests may have many administrative uses, and they may help in program evaluation, but they are sharply limited when the objectives are to obtain diagnostic information for instructional planning. Further, it is unwise to emphasize testing unduly, because too much time, attention, and effort directed there mean time, attention, and effort not directed to teaching. Pearson and Johnson (1978, p. 220) bemoan any tendencies in our school programs to turn teachers into "high-class record clerks in the name of diagnostic-prescriptive teaching."

In this booklet, we are considering the evaluative phase of reading instruction in which evaluation is done for purposes of planning instruction and customizing it for pupils. We are not discussing the uses of evaluational information for giving pupils grades. If children have experience in answering oral and written questions, generating questions of their own, and producing other language regarding their reading, without the continual pressure of the grading process, several beneficial results may come about. Pupils may become more willing to take risks and respond with the kind of information which will help teachers plan more strategically. They may also develop more awareness of their own progress, their strengths and their weaknesses, and thus be in a position to work more deliberately for their own progress.

USE OF INFORMATION FROM EVALUATION

The whole purpose of the evaluative phase of reading instruction is to provide the basis for planning and decision-making for both the class and for individuals. Through careful analysis of information from evaluation, the teacher will be able to make the instructional decisions implied in these questions:

- What are the most promising prereading and interactional strategies to use next with these pupils?
- What are the best materials to select?
- What are the most effective ways to keep the pupils informed about their own progress?

When teachers evaluate the results of their instruction daily, day to day they are able to pinpoint particular difficulties students may be having, even after special strategies have been employed. Children vary widely in the extent to which they need direct teaching in skill strategies (Anderson, 1984). Some seem to take to them naturally, and others need step-by-step guidance in how to attack a reading task. Classes of

low-achieving readers probably have significant proportions of the latter group. Direct instruction in how to go about solving problems in reading can often help low achievers, as increasing numbers of studies are finding. Chapter IV offers suggestions for direct instruction which tap and activate students' thinking.

CHAPTER IV

TEACHING SPECIFIC SKILL CLUSTERS

A. ORGANIZATION OF THE CHAPTER

B. ACTIVITIES FOR DEVELOPMENT OF SPECIFIC SKILLS

UNDERSTANDING MULTI-MEANING WORDS AND UNFAMILIAR WORDS IN CONTEXT

DISTINGUISHING BETWEEN RELEVANT AND IRRELEVANT DETAILS

DETERMINING MAIN IDEA/SUPPORTING DETAILS

DRAWING CONCLUSIONS

DETERMINING THE AUTHOR'S PURPOSE AND MOTIVE

UNDERSTANDING SEQUENCE OF EVENTS

UNDERSTANDING CAUSE-EFFECT RELATIONSHIPS

COMPARING AND CONTRASTING

MAKING JUDGMENTS

ORGANIZATION OF THE CHAPTER

This section provides teachers with skill activities based on research and successful teaching techniques. It should be used with students who have not shown mastery of the holistic comprehension strategies in Chapter III.

These comprehension skills, many of which require complex thinking, have been identified by HSPT results as difficult for students:

- understanding multi-meaning words and unfamiliar words in context;
- distinguishing between relevant and irrelevant details;
- determining main idea/supporting information;
- drawing conclusions;
- determining the author's purpose and motive;
- understanding sequence of events;
- understanding cause-effect relationships;
- comparing and contrasting; and
- making judgments.

The discussion of the overall instructional activities, to be implemented with existing resources and materials in the classroom, has two components: thinking skills and teaching the skill.

Thinking Skills

The thinking skills component analyzes the cognitive requirements needed by students to understand each comprehension skill on the HSPT. The cognitive task analysis for each skill is based on Friedman and Rowls (1980).

Four general thinking skills are identified:

. Identifying concrete events requires the student to recall or locate specific literal details in the passage.

. Categorization requires the student to move beyond the literal level. The learner must define the concept, determine criteria for inclusion, and then analyze whether an item should or should not be included. Both examples and non-examples of the concept should be recognized by the student.

Deductive reasoning requires the student to reason from the general to the specific. He/she is to identify more examples or new examples of a concept. For instance, the student would find supporting details to validate a main idea or topic that has been stated previously.

Inductive reasoning requires the student to think from the specific to the general. Students identify information with common characteristics to determine a general description. An example would have the students locate the details and then determine a main idea or topic.

Teaching the Skill

The skill development component is designed for use with students who are still experiencing difficulty. These students need intensive work with small, sequenced lessons to insure success before progressing to a more difficult level. Thinking procedures and specific questions are incorporated in each sample exercise. Teachers will need to develop similar lessons for individual students.

It is important to realize that the activities are not lesson plans. However, lesson plans would need to be developed, for the activities presented. Development of the skill requires many lessons, over a long period of time, with constant reinforcement and positive feedback as the concept and content levels increase. Many problems arise when the vocabulary, volume of information, and complexity needed to read and comprehend a passage are not matched to the student's experiential or readability levels. To help alleviate these possible problem areas, the teacher should note in the preactive or planning phase the author's use of story genre and elements, style, concepts, vocabulary, sentence structure, grammatical preferences, and usage. It is equally important to be cognizant of paragraph organization and function (see Appendix D, pp. 185-190), especially in expository writing. During the interactive phase, any difficulties identified in the analysis can be discussed with the class.

ACTIVITIES FOR DEVELOPMENT OF SPECIFIC SKILLS

UNDERSTANDING MULTI-MEANING WORDS AND UNFAMILIAR WORDS IN CONTEXT

THINKING SKILLS

Choosing the correct meaning for multi-meaning words requires the student to :

- know various defining categories of the word;
- distinguish between relevant and irrelevant information to help formulate categories;
- categorize context clues; and
- compare the use of the word in the sentence with its appropriate meaning (category).

Finding the meaning of an unknown word using contextual and conceptual clues requires the student to:

- think of a defining category;
- distinguish between relevant and irrelevant information;
- categorize context clues;
- analyze context clues; and
- think inductively.

TEACHING THE SKILL

Teaching categorization skills is a way to help students understand how contextual clues aid in understanding the meaning of unknown words. The thinking procedures used to find an answer are important.

I. Words in lists (categories) can be given. Students infer the meaning of unknown words in the context of the group. The categories could be general or specific, titled or untitled, depending on the ability level of the students.

A. Example of Titled Categories

Ice Cream - 75¢

chocolate
vanilla
coffee
anisette

What is anisette?

Think: What do chocolate, vanilla and coffee have to do with ice cream? They are flavors of ice cream. Therefore, it is fair to guess that anisette is a flavor of ice cream.

B. Examples of Untitled Categories

violin
guitar
banjo
lyre

What is a lyre?

Think: What do the others have in common? They are musical instruments. Is there anything else I know about them? They all use strings to make a tune. Therefore, it is fair to guess that a lyre is a stringed musical instrument.

II. Instead of lists, the exercise could be written in sentence form.

A. We went to the zoo and saw lions, tigers, panthers, and pumas.

Think: What do the terms in the list have in common? What words in the sentence help me? Lions, tigers and panthers are animals in the zoo. Do I know anything else about these animals? They are large cats. Therefore, it is fair to guess that puma is a large cat.

III. Two activities which teach multiple-meaning words in context may be presented.

A. One activity could include presenting a sentence with the word underlined and other sentences with the same word underlined but used in different contexts. The student is to choose the sentence in which the underlined word is used in the same context.

1. We had to reserve seats for our friends at the movies because it was so crowded.

   a. Since Jeff never seems to run out of baseballs, he must have a reserve of them somewhere.

   b. Jeff went to the library to reserve a book on sports because he could never find it on the shelves.

   c. Jeff behaves with reserve in front of strangers but is noisy with his friends.

   d. Jeff went to the animal reserve in the Pine Barrens.

The student should think while reading:

What clues are there to help find the meaning of the unfamiliar word? (E.g., because it was so crowded gives a clue.)

What is the relationship between the unfamiliar word and the clues? (E.g., causal relationship can be seen between reserving a seat and the crowded movie theater.)

Are there other clues in the sentence (passage) to help determine meaning? (E.g., a person usually wants to sit with friends.)

B. In the other activity, each sentence has the same underlined word. The meaning is different, because of the context of the sentence.

1. Choose the sentence in which bank means to trust or count on.

   a. The basketball player scored the winning basket on a bank shot off the backboard.

   b. After many severe rain storms the Delaware River will overflow the river bank.

   c. The man learned a valuable lesson--not to bank on anyone for help--when his friend did not show up to help him paint the house.

Students should underline those contextual clues which help determine the underlined word. The thinking procedure is the same as in the first activity.

Once the student has arrived at a meaning, he/she should substitute this new meaning for the underlined word in the sentence, to determine if the new meaning in the sentence makes sense.

IV. There are many writing patterns and clues which reveal the meaning of unfamiliar words in context. By learning sentence patterns, the student can limit the range of guesswork involved in determining the meaning of the unknown word. They should be taught in conjunction with meaningful material from various content areas. Student textbooks could be textually analyzed to determine which patterns are most often used. Memorization of the different clues is not necessary since it becomes an end itself. Using the clues effectively to determine word meaning is more important than knowing the categories.

A. There are several frequently used patterns in which context clues are <u>directly</u> revealed to students.

1. <u>DEFINITION CLUE</u>:

In this case the unknown word is defined elsewhere in the passage.

<u>Example</u>: An <u>epic poem</u>, which is a long poem that tells the adventures of great heroes, was was a favorite of the ancient Greeks.

Various techniques for cueing definitions are:

a) appositive construction

b) hyphens

c) parentheses

d) commas

e) using defining terms:

1) that is
2) is called
3) means
4) which is

2. EXPLANATION THROUGH EXAMPLE CLUE:

Unknown words are illustrated by examples. This type of context clue is often signaled by words or phrases which indicate that an example is to follow. Common signal words are such as, such, like, especially, for example, other, this, these (followed by a synonym), in the way that, that is, and thus.

Example: Do not ride the clutch; that is, let your foot rest on the pedal as you drive along the highway.

3. DIRECT EXPLANATION CLUE OR MODIFIER CLUE:

The unknown word is explained through the use of modifiers. The modifiers may be phrases, clauses, or even single words. In some cases, the modifier appears after a linking verb in the position of a predicate adjective or predicate noun.

Example: Sparta's government was controlled by a committee of five men, called an ephory.

4. RESTATEMENT:

This context clue is simply a restatement of the unknown word using words and phrases more familiar to the student. This kind of clue is employed more frequently than those noted thus far.

Example: Each slab of rock was covered with strange wedge-shaped markings. These symbols were known as cuneiform writing.

B. There are several patterns in which context clues are indirectly revealed to the student. Thus, in order to use the context for determining the meaning of new words in the following patterns, the student must use inference skills.

1. EXPERIENCE CLUE:

The unknown is predictable from what the student knows of such situations through books or life experiences.

Example: Don't put those dirty feet on the chair. Do you want to sully the furniture?

2. COMPARISON OR CONTRAST CLUE:

The unknown is likened to or contrasted with something known.

Example: Tom lived in a neat and orderly house, unlike his brother, who lived in a hovel.

3. SYNONYM CLUE:

This type of clue is a known synonym for the unknown word.

Example: The crowd became so intractable, so unruly, the police were called.

4. FAMILIAR EXPRESSION OR LANGUAGE EXPERIENCE:

This clue requires an acquaintance with common language patterns: expressions heard everyday and easily anticipated before they are completed by the speaker.

Example: In his desire to be elected, he fell over himself to impress the underclassmen. He made an inordinate effort.

5. SUMMARY CLUE:

The unknown word summarizes the several ideas that have preceded it.

Example: And therefore, when Lincoln was elected President, the South felt threatened and fired on Fort Sumter, precipitating the Civil War.

6. REFLECTION OF A MOOD OR SITUATION:

The context has provided a situation or established a mood or tone, and the unknown word reflects that kind of situation or that kind of mood.

Example: The look on the teacher's face and the angry tone in his voice warned the class the teacher was infuriated.

DISTINGUISHING BETWEEN RELEVANT AND IRRELEVANT INFORMATION

THINKING SKILLS

Determining whether information is relevant or irrelevant to a specific concept requires:

- categorization;
- deductive reasoning; and
- analysis.

To determine relevance, students should:

- clearly define the concept;
- list the defining criteria of the concept;
- locate the information from the passage; and
- compare the information with the defining criteria of the concept.

If the information pertains, it is categorized as relevant; if not, it is irrelevant.

Sometimes students are asked to make a judgment. They should evaluate information as to what is most or least relevant to the concept.

TEACHING THE SKILL

Relevant or irrelevant information is determined by the purpose for reading a particular passage. It is necessary that the purpose for reading be identified and defined and a list of criteria established, before a student reads a passage. The following exercises help teach the concept of relevant and irrelevant information.

I. Having read a passage about Athens and the type of government established in the city-state, students would determine which information is irrelevant to the Athenian government and explain their reasoning.

Given: The Athenians had a democratic form of government.

Which of the following is irrelevant?

Power is in the hands of the people.
Everyone is equal before the law.
When the work is done, free time is enjoyed.
Everyone takes part in the government.

Think: What is the topic (concept)?

What are the defining terms?

Which fact does not belong, based on the topic (concept), or which is the least important to the main idea?

II. Mathematical problems with irrelevant information can be introduced.

The 5 members of the Johnson family made a 250 mile trip in their 2-year old car. If they left at 8:00 A.M. and arrived at 3:00 P.M., how much time did it take them to make the trip?

Think: How much time to make the trip? What information gives time? How can I tell?

Which information is irrelevant to the concept time?

Relevant	Irrelevant
8:00 a.m. to 3:00 p.m.	5 members 250 mile trip 2-year old car

III. Distribute a newspaper article about a sporting event. Ask the students to read to find which team won the game. Any information that does not tell who won the game is irrelevant to the question. Other questions could be developed to locate specific (relevant) information.

IV. A textbook passage is read by the class. The class is divided into groups, each group having a different purpose for reading. The purpose has been discussed, defined and the criteria for inclusion developed. As the text is read, each group lists the relevant

information for its category. Small group or whole class discussion follows, where all students in turn explain their reasoning for including specific information.

V. A more difficult aspect of this skill is to evaluate the relevant information, once identified. A list could be developed, beginning with the most important and going to the least important information necessary to the concept, based on the criteria developed.

After having read a passage on the history of the chair, ask students which attribute is most/least important and why?

It is important to clarify the concept (there are many meanings for the same word) and list the critical attributes.

Chair
seat
usually having four legs
usually having a rest for a back
often having rests for arms

Think: What is the meaning of the concept?
Which attribute is most important to the concept?
What attributes can be missing, and still have a chair classified as such?

VI. After having read a passage about the desert and life in the desert, present the students with a list of items for them to take on a week-long trip across the desert.

1. money
2. tent
3. food
4. water
5. radio
6. matches
7. canteen
8. scarf
9. compass
10. stove

Ask them to decide which items they would need for survival and to rank them from most to least important. Ask questions such as these: Which items did you include? Which is first, second, third? Why? Which items on the above list did you not consider taking at all? Why?

DETERMINING MAIN IDEA/SUPPORTING DETAILS

THINKING SKILLS

Main idea requires the students to produce their own concept from specific facts or details. The teacher should focus on the students' ability to:

- locate specific information;
- categorize information;
- analyze and compare information;
- generalize about the information; and
- reason inductively.

Students should be taught story structure and paragaph organization as an aid in understanding main idea. It should be noted that topics by themselves are not main ideas. Topics help students know the type of knowledge presented, but the main idea is built on the accumulated weight of all the information presented. Main idea is the logical relationship between the specific data and a generalization. The supporting details are an explanation of the main idea.

TEACHING THE SKILL

I. One approach is to begin with the concept of categorization. Students would find a label for the items within the category. If the teacher includes the category as one of the items, then the tasks require a literal skill. If the category is not one of the items, then it is an inferential skill. We recommend that main idea always be expressed in a sentence.

The following exercises can be adapted to the appropriate concept level of the class.

A. Literal:

Dwayne went shopping for his mother.
He watched television.
Dwayne ate dinner.
He finished his homework.
Dwayne had much to do after school.

THINK:

To what general idea do all the details logically relate?
What is that main idea?
Is that main idea stated?

B. Inferential:

One way to prepare eggs is to scramble them. Another is to hard boil them. Also, eggs could be soft boiled.

Main idea: There are many ways to cook or prepare eggs.

C. Topics from an American history textbook chapter could be used to identify main idea.

The War of 1812
The Mexican War, 1845
The Civil War, 1861-1865
The Spanish-American War, 1898

Main Idea: The United States fought many wars in the 1800s.

THINK:

To what general idea do all the details logically relate? What is the main idea (generalization)?

II. Students should have practice in locating main ideas in paragraphs.

A. Students read paragraphs in which the main idea is stated. They are asked to determine if it is in the beginning, middle, and/or end of a paragraph based on the supporting details and examples.

B. Students can read a paragraph in which the main idea is not stated in one sentence. By examining all the information from the paragraph, students compose their own main idea sentence.

C. For students who are still having difficulty, they can first determine the topic of the paragraph and then find out what the author is saying about the topic, to formulate a main idea sentence.

D. While completing these (and similar) exercises, students should be encouraged to think about their reading.

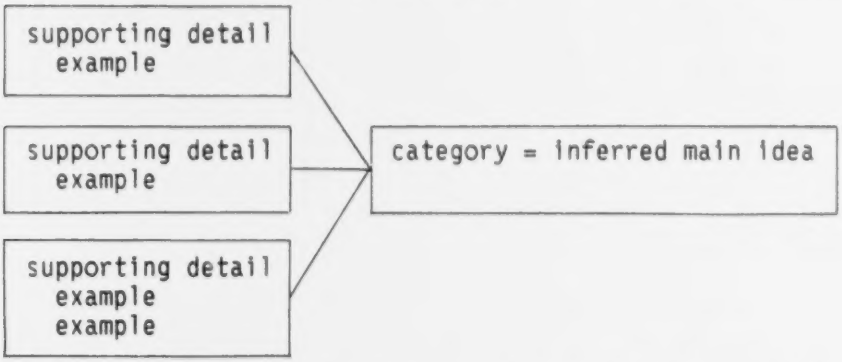
1. What details are in the passage? Who? What? When? Where? Why? How?

2. Are all the details related to the same idea? Which are? Which are not?

3. What is that idea?

III. To find the main idea of a passage, find the main idea of the major paragraphs that comprise the passage.

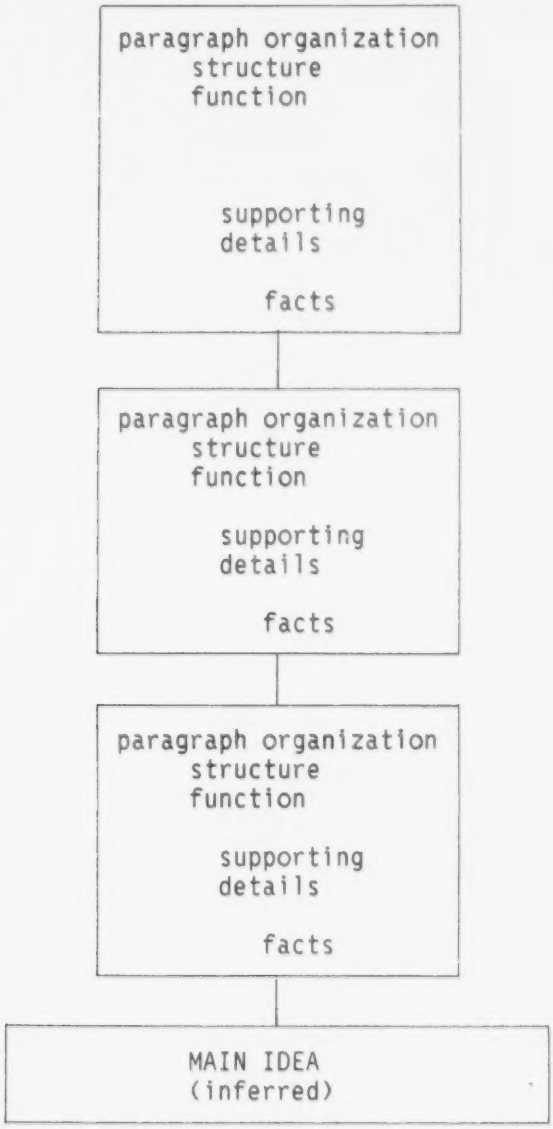
The teacher can model how he/she finds the main idea and have the students do the same.



IV. The main idea of a passage or story can be taught by having students analyze the structure and function of each paragraph. (See Appendix D, p. 185.) Students can see how each paragraph logically interrelates with the others. This allows the student to find a main idea in the passage. In addition, main ideas of individual paragraphs can be determined in the context of their relationship to the main idea of the passage. Students should be encouraged to state the main idea in their own words. This helps them internalize the information and confirm their understanding of what they have read.

THINK:

How does the paragraph organization help logically relate the accumulated supporting information? What generalization or main idea can I think of based on all the information?



*Our thanks for this strategy go to Dr. Judith Greenwald, New Jersey State Department of Education.

DRAWING CONCLUSIONS

THINKING SKILLS

To draw a conclusion, the student must infer from the details given and then use his/her prior knowledge to arrive at a conclusion. The student needs to:

- identify relevant information;
- categorize the information;
- analyze the categories; and
- reason inductively to find a general theme based upon the relevant information and prior personal knowledge.

Sometimes, drawing conclusions is an inductive reasoning skill. For example, an author might list and describe various types of laws he/she thinks should be passed. The reader could draw a conclusion about the type of government favored by that person.

On the other hand, the skill of drawing conclusions might involve the deductive reasoning process. An author might be advocating a particular form of government, and the reader would conclude whether particular actions would be acceptable in the author's viewpoint.

TEACHING THE SKILL

I. Important facts in the passage help students draw a conclusion.

A. Start with one fact in the passage.

John and Tanya were deciding where they would go for a vacation. They decided to go to a country near the equator.

Ask: What kind of weather do they prefer? Where will they go?

Fact: going to a country near the equator.

THINK: What do I already know that helps find an answer based on the facts?

THEREFORE: (conclusion) They like hot weather. They might decide to go to Mexico.

B. Next use a passage(s) with two or more facts. (This is an application of the skill of complex inferencing.)

1. During the Depression of the 1930s, the movie industry grew rapidly. This happened at a time when money was scarce, frustration was high and the fear of failure and unemployment was great. For ten cents, people could go to the movies and watch the antics of comedians or escape in a fairy tale.

   Why did the movie industry grow and become so popular during the Depression?

   What are the facts?

   Fact: movies costs ten cents
   Fact: money was scarce
   Fact: frustration high
   Fact: great fear of failure and unemployment

   THINK: What do the facts tell me? During the Depression, people had many problems.

   THINK: What do I know about the subject? I know that, when people have many problems, they try to forget about them for a while, especially when there is little they can do about them.

   THEREFORE: People probably went to the movies to forget about all their problems for a while. In those days, ten cents probably wasn't worth as little as it is now; but it also probably wasn't a great deal of money, because many people went to the movies.

II. Students read a passage about a character and his beliefs (e.g., a student who "turns the other cheek" instead of fighting). They could then be asked to determine what the character might do if drafted into the army. Questions to help students could be asked:

> What facts are stated in the story to help determine an answer? Who? What? When? Where? Why? How?
> What events occurred in the story to give a hint as to what will happen?
> What do you already know that will help you come to a conclusion?

III. Similarly, a story could be read about the ideas or character traits of a person, and the student would be asked to decide on a philosophy by which the person might live (e.g., always spend money immediately; never worry about the next day).

The questioning procedures remain the same as in the other activities; however, the student must think inductively.

DETERMINING AUTHOR'S PURPOSE AND MOTIVE

THINKING SKILLS

Inferring the author's purpose is an inductive reasoning skill involving the student's ability to:

- locate information;
- categorize information;
- analyze through comparisons;
- see the causal relationship involved;
- produce a generalized concept from the information; and
- evaluate the concepts presented.

TEACHING THE SKILL

Students should be taught that authors frequently write to inform, entertain, persuade, or give an opinion. Therefore, it is important for students to recognize the author's purpose or motive in presenting the information. While reading, students should be aware of the author's choice of words in the reading selection. These words are often clues to the purpose of the passage, as well as to how the author tries to influence the reader. (For an extensive list of techniques used in writing to influence the reader, see Making Judgments, pp. 124-125.)

I. After reading a passage, students should identify descriptive, emotional, and opinion words in the passage.

   Descriptive words are adjectives and can convey an author's opinion.

   Opinion words specifically tell the author's reasons and opinions.

   Emotional words tell how the author feels about the subject (see discussion in the Making Judgments section, p. 129-131.)

Descriptive Words _____

Opinion Words _____

Emotional Words _____

Students should think:

A. Does the author just give facts about a subject?

Informational Passage

B. Does the author make comparisons using descriptive words? Which does he/she seem to be saying is better?

Persuasive Passage

C. Does the author give his/her opinion using opinion words? Without opinion words? Is the argument convincing?

Opinion Passage - Editorial

D. Does the author use characters to make comparisons, give opinions, warn, teach a lesson, entertain or inform? If so, the character is the way the author lets the reader know his purpose.

II. Show an advertisement to the class from a newspaper or a magazine.

What is the information telling you?
What is the information <u>not</u> telling you?
What opinion words does the author use to tell about the product or service?
Why was it written?
Do you agree with what the advertisement says? Why?

III. Find two differing newspaper accounts of the same news item. Reports of sporting events of New York-New Jersey or New Jersey-Philadelphia teams are easily found. In using "news items," the teacher should point out that organization of the information - what comes first - is another way the writer has of influencing the reader. Word choice alone, especially in newspaper reporting, does not persuade the reader.

What opinion words did the reporters use to describe the same action or event?
Are they the same? Different? How?

Why did the writers choose those words to describe the event?
What was each reporter's purpose in writing the article?

THINK:

One writer said the losing team was narrowly defeated.

The other writer said the winning team easily defeated the other team.

Both writers used opinion words.

The purpose of one writer was to make the home fans feel the game was close and the losing team wasn't all that bad.

The purpose of the other writer was to make the home fans feel that the winning team was superior to the losing team.

IV. Teachers could find a newspaper article that discusses a new hazard found in our environment (e.g., cancer-causing pesticides). Read the article with students.

What is the article about?

Which opinion words does the author use to present the information?

Why do you think the author chose those words?

What position does the author take? How do you know?

Students should model the questioning technique developed above each time they read.

V. An activity for classroom discussion:

Have two students each write a short account of an event that happened in school (a dance, perhaps), using descriptive, emotional, and opinion words, trying to justify their own views of the events. (These should be prepared without the knowledge of the class.) Ask the class if the accounts are the same. Why? Why not? How did each author present the story differently, using the same facts? Why?

VI. Although students have had much opportunity to read and view advertisements, they probably don't understand the subtle ways advertisers try to influence them. This is a good way to help students learn to be more critical in their reading and thinking.

Some techniques of persuasion follow. (This is not an all-inclusive list.)

Bandwagon - Everyone does it: so should you.

Testimonial - A famous person says it's good.

Glittering Generalities - To seek acceptance, the product is associated with widely accepted and approved ideas.

Name Calling - Our product is better than others.

Scientific Data - Studies by doctors prove...

Repetition - The message is said over and over until one believes it.

Transfer - The ad says that you could be like the people who use the product.

Card Stacking - The ad builds on half-truths.

Students should be taught each of the persuasive techniques separately.

Have students bring in advertisements illustrating each technique. Discuss how the use of illustrations and words influence them. What makes you feel you would buy the product?

Students could create new products and devise an advertising campaign using the persuasive techniques taught.

UNDERSTANDING SEQUENCE OF EVENTS

THINKING SKILLS

To determine the sequential order of events, a student needs to:

- understand the concept and the necessity for a specific order;
- locate the events and signal words;
- categorize the events;
- analyze the relationship of the events; and
- reason deductively to determine sequence.

Understanding sequential order involves understanding the relationship between events. The greatest difficulty in comprehending time relationships seems to be related to events that could be reversible (Pearson and Johnson 1978). Lack of experience causes other students to have difficulty determining the correct order. Other readers ignore the cues indicating that the first event reported in a story was not necessarily the first in the sequence of events. For example, an author's use of flashback causes great confusion. Students should be taught to evaluate the relationship of one event to another and determine whether each event is logically tied to the one before, even if not specifically stated in that order.

TEACHING THE SKILL

I. At first the teacher models how students should determine sequence. Perhaps in the first few lessons, signal words are used exclusively. Signal words should be taught, but not necessarily memorized and tested. These words are a means of comprehending sequential order.

Sequence Signal Words

past, present, future
early, late, soon
initially, presently

beginning, middle, end
first, second, third
subsequently
prior to
before, after
meanwhile
finally, at last
next, following, then
till, until
immediately, eventually, never
precedes, follows
then, now
early, late
at the same time, simultaneously
and, also

A. Have students circle words which signal sequence in a paragraph.

Steven helped his father wash the car. First he washed the roof. Next, he slowly washed and wiped the windows. Finally, he carefully scrubbed the white walls of the tires.

Students should think:
What are the signal words?
What happened after; before?
What is the relationship between the events?
Does the order make sense?

B. Teachers should also be certain that students understand what is being asked for in a sequence question. Often there is confusion.

"When?" refers to time or a logical sequence of events.
"What happened?" refers to a pattern or sequence of events.
"How do you do it?" refers to directions.

II. After mastery with signal words, students read paragraphs and stories without signal words. Usually the order in which the events are written is the correct sequence. However, that is not always true. Students typically have trouble with stories that do not follow a logical sequence. Many times an author will use various literary techniques, which have the reader entering a story in the middle of a sequence of events (e.g. foreshadowing or flashback etc.). Students often will not think through the logical sequence of events. Because one event was written first in the

passage, they believe it is the first event to occur. It is important to encourage them to think logically about the events in a passage.

THINK:

What happened? after? before?
When did it happen?
What is the relationship between the events?
Does the order of events make sense? Could one have happened before the other? How should they be rearranged to make sense?

III. The teacher could cut apart the directions on how to construct or bake something and distribute it to groups of students. Each group decides the correct order of the directions and then tries to follow these directions. The final product will determine whether the directions were put in the correct order.

An example might be: How To Make a Paper Airplane (Note: these are in the correct order!).

First fold a sheet of paper in half lengthwise. Open it with the crease facing up.

Fold the two upper corners of the opened paper until they meet the center crease.

Then, fold the paper along the center creaseline again, without opening it up.

To make the keel of the airplane after the wings are made, fold each loose side back lengthwise, the same distance from the center crease, and staple.

Finally, cut off the tip of the pointed nose for safety and fly the finished paper airplane.

Students should think:

What are the signal words?
What is the logical order?
Does this order make sense?
Could one be done before the other?
How should they be rearranged to make sense?

IV. A selection from a social studies text is read. A timeline is developed based upon the events read.

UNDERSTANDING CAUSE-EFFECT RELATIONSHIPS

THINKING SKILLS

To understand a cause-effect relationship, the student needs to:

- identify information (details and signal words);
- make predictions based on prior knowledge and experience;
- understand how the actions relate one to another;
- analyze the relationship between events; and
- think inductively to produce a concept which is either the cause or the effect.

The cause-effect relationship is important in thinking about and in identifying characters' motives and authors' purposes. Both require the student to identify the cause-effect pattern of a person's action.

TEACHING THE SKILL

I. The teacher should teach the signal words. However, it is not imperative that they be memorized, just recognized, in the context of the written material.

If _____ then _____	
because	as a result of
since	for
so	hence
in order that	consequently

These words signal a relationship between two ideas or events.

Students should be shown that they can predict, based on the signal word, whether they can can expect to find the cause or effect following the signal word.

Since the Surgeon General has determined that cigarette smoking is hazardous to our health, a warning must be printed on the side of each cigarette package.

The word since signals that a cause or reason for some action or event will follow.

II. Teach questioning techniques to find cause-effect relationships.

Why refers to the causes, conditions, and explanations for an event or action.

What happened when refers to the effects or results of some action or event.

Example: When Tyrone fell, he twisted his ankle.

Cause: Why did Tyrone twist his ankle? (Because he fell.)
Effect: What happened when Tyrone fell? (He twisted his ankle.)

Think: Why asks for a reason or cause for something else which happened.

What happened when is the result of the why question.

The students could be asked to match the appropriate cause and effect.

Cause (because)	Effects (result)
fell	passed the test
studied	broke a leg
practiced	won the race

To find a cause when the effect is known, ask "Why did he pass the test?"

Because _____.

To find an effect when the cause is known, ask, "As a result of his having studied, what happened?"

Other questions to help students understand cause and effect relationships while reading could include:

1. What effect did this event or intervention have on the plot, character or scene? Am I correct?

2. What do I think will happen next because of this action? Am I correct?

3. What reason did the characters have for their actions? Am I correct?

III. The students should be taught to identify the relationship or pattern in writing.

Review signal words and have the students identify the cause and label the effect and write them on the lines given.

A. Cause - Effect Pattern

Dwayne wanted to watch the beginning of the basketball game so he ran all the way home.

cause	effect
_____	_____

B. Effect-Cause Pattern

Dwayne ran all the way home because he wanted to watch the beginning of the basketball game.

cause	effect
_____	_____

C. Have students read paragraphs where cause and effect statements are cued with signal words and where they are not cued with signal words.

D. Have students identify the cause and the effect in paragraphs.

E. Have the cause in one sentence of a paragraph and the effect in another sentence or paragraph.

F. Have students read a passage where there are multiple causes (or a causal chain of events) for a single event.

G. Have students could read a passage where there might be one cause but many effects for an event.

IV. Students can paraphase sentences by finding another sentence that means the same as the first.

This exercise can help teachers learn where students have difficulty thinking through cause and effect relationships.

As a result of all the yelling at lunch, the students were not allowed to talk in the cafeteria.

1) The students were not allowed to talk in the cafeteria because of all the yelling at lunch.

2) Students were yelling at lunch was because they were not allowed to talk in the cafeteria.

3) In order to yell at lunch, the students were not allowed to talk in the cafeteria.

COMPARING AND CONTRASTING

THINKING SKILLS

Comparing and contrasting requires knowledge of the concept of categorization. Students must:

- understand the defining characteristics of the word or category label;
- think from the concrete to the abstract; and
- know the relationship of the two concepts or categories.

They will learn that, the more general the category, the less specific the criteria for inclusion, and vice versa. Identifying similarities and differences forms the basis for comparing and contrasting concepts.

The reader may need to:

- reason deductively, if the category is given but no example is offered; or
- reason inductively, if examples are given but the category is not supplied.

TEACHING THE SKILL

I. There are many signal words that cue the readers to watch for comparisons and contrasts. The inclusion of the signal words does not necessarily make the skill literal, but only alerts the reader that a comparison is being made. What is being compared can be inferred in the paragraph or passage.

Here is a list of the most common signal words.

Differences	Similarities
in contrast	likewise
conversely	similarly
however	in the same vein
but	comparatively
rather	alike

vice versa	in the same way
on the contrary	equally
on the other hand	correspondingly
nevertheless	as
neither	like
otherwise	

II. Students should be taught that a comparison - contrast pattern frequently appears in written material in the content areas. The purpose is to link the known with the unfamiliar, to clarify material easily confused, and to help the reader understand new content material. Teachers can help students by:

A. pointing out signal words;

B. determining whether the style of the paragraph is comparison or contrast; and/or

C. focusing on what is being compared or contrasted.

III. After reading about two cities in the United States, students could be asked to decide which one place they want to visit.

The following questions could be asked:

How did you decide? Why did you choose one over the other? On what did you base your decision?

Students should realize that there must be a basis for a decision. Categories and defining attributes are needed before a decision can be made.

IV. Teachers can present passages to students with the broad categories underlined. Students then arrange the facts in chart form under the correct heading and number. For example, number "1" on both charts is about the same category, women's rights.

Example of chart:

A. Facts from paragraphs on Sumerian society.

1. women could be sold by husband
2. children could be sent to another city for misbehaving
3. girls' marriages arranged

B. Our society in America today.

1. women have equal rights
2. children have rights as individuals

3. marriages not arranged: mate chosen by individual

V. While reading, students can infer categories based on the attributes stated in the paragraphs. While reading, the students should ask themselves:

A. What is the author comparing? (people, places, events, things, attitudes)

B. What characteristics are given?

C. How are the subjects alike? Are their likenesses specifically stated, or do I have to infer them?

MAKING JUDGMENTS

THINKING SKILLS

To make a judgment from the information presented requires the student must:

- identify information;
- categorize information from defining criteria (existing state);
- compare the existing state to the desired (criterion) state; and
- judge how closely the two states (categories) are related.

Making sound and logical judgments is a complex skill. It requires the ability to understand the relationship between the existing state and the desired (criterion) state of the item in question. For example, a student might be asked to judge the quality of a classmate's composition. The existing state is the written composition, which will be analyzed and compared to the standards and rules (criterion state) that have been set for essay-writing. Certain criteria, such as definitions, established standards and rules enable students to make objective judgments.

A value judgment is made in a similar fashion, but the criterion state is based upon the student's belief, attitudes and choices. These are not set criteria but criteria that vary with each student's particular values. Therefore, different judgments ae made based upon the same information or existing state. It is important that students learn to categorize and compare all information before making a judgment. An example of a value judgment might concern the student's judgment about an author's viewpoint on a certain subject. For instance, the student might agree with the content of the essay, basing his/her judgment on personal beliefs.

Sometimes students are required to set up criteria (desired state) on which to base their judgments and then judge the information the author has given (existing state). This requires flexible thinking, for the student must reason inductively and divergently to arrive at a concept and reason deductively and convergently to decide on the criteria for inclusion.

There are many problems that students face in trying to make judgments. Students' prior knowledge and background information are often not sufficient to know the criteria for inclusion in the desired state. Therefore, they cannot compare the information. This leads to fallacious judgments or none at all.

As the teacher can see, this is a complicated reasoning skill that is extremely difficult to teach in all its aspects. Teachers should rely on modeling the techniques of making a judgment and using discussion and feedback to teach the skill and understand student responses fully.

TEACHING THE SKILL

Students should learn that all information, written as well as spoken, can be evaluated. Writers usually have a point of view, and the reader needs to understand the various ways in which authors try to influence the reader. In addition, students can agree or disagree with what they read as long as they can defend their position logically.

Questions that could lead students to make logical judgments include:

1) Why is the author writing (stating) this?

2) Is the information factual? Do I believe it? Why or why not?

3) What language techniques is the author using to persuade me?

4) Do I come to the same conclusions as the author? Why or why not?

Students should be encouraged to ask themselves these questions during silent reading.

It is difficult to present skills to develop criteria to evaluate a specific subject or idea. These are developed when students' experiences and knowledge base are expanded. However, the questioning techniques provided are an excellent way to help guide and assess student thinking and judgment. In addition, certain activities could be used to develop the skills of recognizing the way in which authors present information. Differentiating fact and opinion and recognizing author bias are two important skill areas students need to know in order to evaluate what they have read. Each of these skills has several components as shown on the following pages (from Pearson and Johnson, 1978).

I. FACT AND OPINION

A. Verifiability

Although information can be presented in factual form, students must question its accuracy and determine whether the information can be verified.

Examples:

1. Newark is the largest city in New Jersey.

   Its accuracy could be proven by the latest census report.

2. The Civil War was fought between the North and the West.

   Its inaccuracy could be proven by historical records.

   THINK:

   Is this information factual?
   Does the author tell where he/she found the information?

B. Qualification

This activity gives the student practice is recognizing opinion or qualifying words.

Examples:

1. I believe the Boston Celtics is the best team in basketball.

2. We think that football is a very dangerous sport.

   Other qualifying words include (but are not limited to):

perhaps	opinion	somewhat
maybe	usually	like
ought	must	prefer
should	probably	could
might	sometimes	always
	never	

THINK:

Is the author qualified to write this?
Does the author try to disguise his/her opinion?
Do I agree with the author?

C. Quality and Quantity

In this exercise, the students learn that quality is a matter of opinion, whereas quantity is a matter of fact.

Examples:

1. Quality

   a. Mary is prettier than Debbie. (opinion - not verifiable)

      The condition of beauty does not mean the same to all people. The criteria are different for all.

   b. Flying to California is better than taking the train. (opinion - not verifiable)

      Better for some, but not for anyone who doesn't like flying.

2. Quantity

   a. John is heavier than Mike. (fact - can be proven)

      The category is measurable.

   b. Bob is taller than Lou. (fact - can be proven)

      The category is measurable.

      In the following sentence. a fact is used to support an opinion, but the judgment is still an opinion.

      Because Bob is taller than Lou, he is a better basketball player.

THINK:

What are the facts?
Does the author try to mix concepts of quality and quantity?
Do I agree with the author?

D. General and Specific

Usually, the broader the statement, the more likely it is to be an opinion. Because the category is too large, there tend to be many exceptions. Words like all, every, forever, and everyone make the category too inclusive.

Example:

1. All American cars are made poorly.

2. Everyone knows the Dallas Cowboys is the best football team.

3. All teenagers wear jeans to school.

THINK:

Does the author make generalizations with few facts?
Do the facts support the generalization?

E. Objectivity:

This skill is similar to identifying emotional words. The more neutral the descriptive words are, the more objective or factual the statement. A good activity is reading sports headlines.

Example:

1. Adams High beats Jefferson High 40-35. - Objective

2. Adams High destroys Jefferson High 40-35. - Biased

THINK:

What techniques did the author use to try and persuade the reader?

II. EVALUATING BIAS

A. Emotional Words

Many words, while being descriptive, also connote certain emotional ideas to the reader. By using connotative words in the passage, the author can show his/her opinions, bias or prejudice.

Example:

Which sentence in each pair is more biased, less neutral?

1. I dislike doing homework.
   I hate doing homework.
2. Smoking can cause cancer.
   Smoking can cause the dreaded disease cancer.
3. The suspect was found near the scene of the crime.
   The criminal was found near the scene of the crime.

THINK:

Is the author using emotional or persuasive words to influence the reader's opinions? Which words? Why?

B. Associations

Many times people are judged by their associations with other people. If their friends are troublesome, usually they are considered the same, even if there is no evidence to support it. The phrase "guilt by association" is applicable. Authors may do the same.

Example:

1. Jeff and Tom are always in the Dean's Office for disrupting the class. Dwayne is in the Dean's Office also.
   Why is Dwayne in the Dean's Office? (Here are two possible conclusions)
   a) Dwayne is a problem student.
   b) Dwayne is a monitor.

THINK:

Do the facts presented suppport the author's conclusions?
Do I agree?

C. Half-truths and Omitted Information

Half-truths can be illustrated readily in blurbs. Find a movie advertisement that quotes a reviewer's comments out of context. Compare the blurb to the entire review, if possible, or to student opinions of the movie.

Example: "...exciting and action packed movie..." really was written as "Although one scene was exciting and action packed, the movie failed to hold the interest of the viewer."

THINK:

Did I read all the information before coming to a conclusion?
Does the author give enough information to make a logical judgment? What information may be missing to help the argument? Hurt the argument?
From what I know about the issue, does the author present all the facts? Only one side?

D. Overgeneralization

The author presents a few facts and makes a broad statement. The facts given are not enough to support the statement.

Example:

1. Facts

School X has a few disruptive students.

School Y has low test scores.

2. Generalization

The schools in district T are poor.

3. Truth

District T has 15 schools, and the over-generalization is not supported by the facts.

THINK:

Does the author give enough information to make this generalization?
Could I come up with another generalization instead?

Teachers can use the following suggested activities to help their students apply and practice the skills discussed on the preceding pages.

III. Have students read information about candidates seeking political office. It could be a school, local, state or national election. List the statements, voting records, and campaign promises of each of the politicians. Compare each candidate's voting record with his/her speeches and promises. Compare what each promised to different parts of the county, state, or even different interest groups. Are they consistent? What techniques do the candidates use to get across their points of view? (For specific techniques, see skill exercises in this lesson and in the exercise on author's purpose, p. 110.)

IV. Have students read about an interesting controversial issue. Then have them take positions that support both sides of the issue, giving reasons that are feasible and logical. The reasons do not have to be ones that the teacher considers most important, but each should be related to the issue and be distinct from the others.

V. Have students write letters to the editor of the class, school, or local newspaper, giving their positions on a topic of interest.

VI. Using the skills learned in understanding the writer's purpose, students could launch a full advertising campaign. Divide the class into teams, and have students develop a new product. Have them name it, package it, and write press releases and mixed media advertisements to promote it. Television commercials could be videotaped. A judging committee of students, teachers, and administrators could be established to select the best total advertising program.

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APPENDIX A

Questions from the New Jersey High School Proficiency Test

Reading Section
1984

PASSAGE A

Kim was on her way to interview Patty Summers for the school paper because, to the surprise of many, Patty had just been selected the school's "Best Citizen." "I wonder," Kim thought, "why the Citizenship Committee picked Patty." Patty Summers wasn't the best student in the school; but she earned high grades, and everyone knew that she was intelligent. Nor was Patty the best athlete in the school; but she made the track team, never missed practice, and regularly earned points for the school in the high jump competitions.

Patty never ran for class office, but she was popular. She knew Kim's name and always spoke to her—even during those difficult days when Kim was new to the school and almost no one recognized her. "Patty doesn't seem to be terribly creative," Kim thought, "but for some reason, when she has an idea, people listen." When Patty had suggested a campaign to donate food for families of unemployed workers as the yearly class project, the class agreed that would be much better than the traditional project of buying a new tree for the school. When Patty insisted that the class ought to be able to find a tree also, the owner of a local nursery agreed and donated one.

As she continued on her way to the interview, Kim recalled how she started to write for the school paper shortly after she enrolled in the school. Patty went out of her way to tell Kim that the paper needed a good reporter. Patty made her feel important enough to do something worthwhile for the school, even though she was a newcomer. "Maybe," Kim concluded, "the committee considered lots of different things when they made their choice."

SKILLS	ITEM NO.
Identify cause and effect relationship	1
Infer a character's motives	2
Make judgments from information presented	3

PASSAGE B

From the time of colonial traders until 1945, the 370-mile New Jersey coastline was dotted with commercial vessels under sail. Hundreds of these fine sailing ships—from small fishing boats to great multi-masted schooners 150 feet long—were built along New Jersey waterways. They were made out of pine, cedar, and oak, all harvested from New Jersey forests. In addition to shipbuilding yards, there were lofts in which sail-makers designed and crafted the cloth engines that powered much of the Jersey fleet.

It was the state's oyster industry that guaranteed the continuation of this last sailing fleet up until 1945. New Jersey supported this industry with a state-owned spawning ground. Oystermen came here between May 1 and June 30 to dredge up deckloads of young oysters that they carried home to plant in their own waters. In September, after the oysters had fattened through the summer, they were ready to be harvested.

The annual harvesting—mostly done in Delaware Bay—was not as picturesque as the yearly dredging of the seed oysters from the state's spawning grounds between Fortescue and Stowe Creek. For in their "private" harvesting waters, the oyster ships were not required to go under the power of sails and usually used motors.

In contrast, until 1945, the state required that the dredging of the seed oysters be done only under sail; ships with propellers were not even allowed in the spawning beds. Vessels came by the hundreds each May through June, white sails puffed full of wind, up to the spawning beds and back down the bay—as fast as their bulging sails would carry them.

SKILLS	ITEM NO.
Infer sequence, time order	4
Identify events in sequence	5
Identify main idea of a passage	6
Infer comparisons (similarities)	7

PASSAGE C

The Japanese adopted the U.S. game of baseball at the turn of the century and have had a passion for it ever since. There are some interesting differences in being a professional baseball player in Japan as compared to in the United States. This makes it difficult for some American players to be successful in the Japanese league.

Several differences between baseball in the two countries are closely related. Japanese teams are required to practice long days for over ten months of the year—sometimes going for months without a day off. In the United States, training starts the first of March, and the season is over by early October. Some Americans who play on Japanese teams have balked at this and other rigid Japanese requirements. Those speaking out have learned the hard way that, in Japan, the team manager's word is absolute. Unlike American managers, who are advisors or consultants, the Japanese manager has complete authority. When he says, "Practice more and change your batting style," that's what a player must do.

Another aspect of playing in Japan that is frustrating for Americans is what has been called "the cultural difference." Many Japanese players, sports writers, and fans alike resent Americans who play there, sometimes earning more than twice the salary the best Japanese player gets. This feeling has been reinforced by the fact that not many foreign players have performed exceptionally well in Japan. Even those who have done well have encountered deliberate resistance that keeps them from getting awards such as "Most Valuable Player."

The Japanese seem determined to keep their baseball Japanese. Thus they have limited each team to two foreign players and have proposed banning the hiring of foreign players within five years.

SKILLS	ITEM NO.
Identify word meaning from multiple meanings	8
Identify meaning of unfamiliar words from their context	9
Infer contrasts (differences)	10
Identify main idea of a passage	11

PASSAGE D

Although it never got off the ground, or even past the early construction stages, the "Jersey Superplane" was surely the grandest of Alfred W. Lawson's many ideas. Lawson, who was a magnificent dreamer, became interested in aviation about the time that the Wright brothers flew their first plane, and soon he was designing, building, and testing his own airplanes.

Lawson saw the need for commercial air travel inexpensive enough to compete with the railroads. That meant larger aircraft capable of carrying enough passengers to reduce the expense of a single flight. So, in 1918, Lawson built a 26-passenger plane with a closed cabin and flew it round-trip from the east coast to Milwaukee. His next venture, the "Midnight Landing," had room for 36 passengers, but it crashed on takeoff. Undaunted, Lawson began in the early 1920's to design his super airliner.

The Superplane was to be a 150-foot biplane with a 200-foot wingspan, 12 motors, and room for 100 passengers in a cabin with two floors. Since the aircraft would fly nonstop from New York to San Francisco, it would need to be refueled in the air. The design included trap doors so mechanics could crawl out on the wings and adjust the motors in flight. Lawson even considered the midair transfer of passengers and mail from the Superplane to smaller planes through long chutes.

Construction of the Superplane was begun in Garwood, New Jersey, in a building big enough to hold only the cabin. So, in 1928, construction was moved to Trenton. But Lawson's financial backers withdrew their support, and the plane was never finished. However, the Pennsylvania Railroad bought the two-storied cabin idea for its train and, within a few years, the Germans designed a huge airship into which they crammed 169 passengers.

SKILLS	ITEM NO.
Identify cause and effect relationship	12
Predict the outcome	13
Infer comparisons (similarities)	14
Infer a main idea	15

PASSAGE E

Although kites are popular worldwide, they are most closely associated with China. One legend says that over 2,000 years ago, a Chinese general built a strong, yet lightweight structure that would enable the wind to lift a man high into the air so he could spy on the movement of enemy troops. It is believed that the first recreational kite was designed out of paper to entertain Chinese royalty about 1,000 years ago.

Chinese tradition used to limit kite flying to a three-month period beginning in the spring with the Pure Brightness Festival, when people greeted the warm weather by sweeping their ancestors' graves and then going on spring outings to fly kites. Today, however, kites can be seen in the sky over China all year long. One Chinese city flies hundreds of kites over its city square at all times to symbolize eternal spring. A popular Chinese tradition is to get rid of bad luck by cutting one's kite loose and letting it fly away. If such a kite lands on someone's house, however, it must be destroyed by the people who live there in order to turn the bad luck it represents into good fortune.

Chinese kite-making is an art. Colorfully designed kites as small as a hand or as large as two people often decorate walls. They are made from colored paper or silk that has been carefully cut, pasted on frames, and painted by hand. But most of China's kites are aloft. Young and old alike take special delight in flying a kite of their favorite design. They take many forms, sometimes depicting warriors, mythical figures, butterflies, hawks, swallows, monkeys, or giant centipedes or dragons trailing their elaborate tails hundreds of feet up toward the clouds.

SKILLS	ITEM NO.
Infer contrasts (differences)	16
Infer sequence, time order	17
Identify appropriate encyclopedia heading to locate more information about a topic	18

PASSAGE F

For over ten years, scientific studies have been revealing that trees are "smarter" than most people think. In Finland, scientists have learned that when insects attack a branch of a catalpa, it stops producing fruit on that branch in order to save its energy for its other branches. Other Finnish scientists have learned how trees change chemically when they become aware that insects that will eat them are near. In effect, they alter themselves so they taste bad. Now some American scientists are asking, "Do trees communicate with each other?" The possibility may sound far-fetched, but recent scientific studies indicate that while trees don't actually speak, they do appear to communicate.

Studies have shown that not only is there a chemical change in a tree under attack by insects, but also that trees hundreds of feet away make the same change. They do this even though the insects have not yet attacked them. How do these trees know that one of their neighbors is being eaten by insects? What kind of a warning signal is given off by the tree being attacked? Does it send out some kind of message through its root system, or does it communicate through the air?

American scientists suspect that the message from the wounded tree is transmitted through the air somehow and that the message is related in some way to chemical change within the tree. This change may create a kind of gas that is carried by the air to neighboring trees, which detect it in some way. These are just a few examples that illustrate some of the amazing things trees can do. One biologist says trees are "like very slow animals – the only thing they can't do is run away" from trouble.

SKILLS	ITEM NO.
Identify meaning of unfamiliar words from their context	19
Infer cause and effect relationship	20
Make judgments from information presented	21
Identify cause and effect relationship	22
Identify main idea of a passage	23
Infer sequence, time order	24

PASSAGE G

My grandmother once said that, as a child, she seldom saw her mother, Minnie, without a needle in her hand. Minnie would have continued to fashion all of her family's clothes by hand had it not been for the invention of the sewing machine and her husband Fred's decision to buy her one in 1860.

All the neighborhood women except Mrs. Flinch, who had all her clothes made by someone else, came over to see what was being advertised as "the wonder that would free women forever." To Fred, the machine became that "noisy contraption" in the parlor. It was clacking constantly. Minnie was so impressed by how the machine sped up production that she sewed more than ever. Soon she was making garments for numerous ladies like Mrs. Flinch. This resulted in a sizable increase in the family's income—a reality that disturbed Fred. He thought that sewing was a respectable thing for a woman to do at home if she didn't earn too much money. He would scowl at the machine, announcing that machines belonged in factories. He had some vague hope that Minnie would go back to hand stitching.

Instead, Minnie used her earnings to buy a newer machine—one that hid all its mechanical parts and pretended to be a piece of furniture when it was closed up. Perhaps Minnie thought the disguise would put Fred at ease.

However, the success of her blossoming enterprise engrossed her. The lovely walnut doors of the sewing machine were rarely closed as Minnie's home industry continued to grow. According to Grandmother, things were never the same from the day that first sewing machine arrived.

SKILLS	ITEM NO.
Identify meaning of unfamiliar words from their context	28
Infer sequence, time order	29
Identify events in sequence	30
Draw a conclusion	31
Infer a main idea	32

PASSAGE H

If it hadn't been for the severity of its winters, Astoria, New York, rather than Hollywood might have become the capital of the motion picture industry. For twelve years, the Long Island town, noted for its large population of citizens of Greek descent and its authentic Greek food, reigned as the home of Paramount Studios. A huge cement building built in 1920 was used to film 112 silent movies and, after sound was developed, 144 "talkies." Nearly every great actor and actress of that era starred in a movie made in Astoria. This illustrious group included Rudolph Valentino, W.C. Fields, Gloria Swanson, Lillian Gish, and the Marx Brothers.

By 1932, however, Paramount was in debt, and the company moved west to Hollywood, California, joining other motion picture companies that had begun to develop there. Hollywood had no bitter winters to interrupt production schedules and make pictures more expensive. Until World War II, the Astoria facility was rented for short terms to individual film producers. At that time, the U.S. Army bought it and used it to make an average of one informational film a day. In 1971, the Army also deserted the Astoria film plant. It sat idle and unguarded for years, while vandals slowly destroyed it. Then, a group of citizens who recognized the plant's historic and practical value began a long drive to restore it. Major films, such as *Hair*, *The Wiz*, and *All That Jazz* have already been made there, and the modernization of the studio's facilities promises to keep it humming as a major production site. In 1986, a museum of motion picture history is scheduled to open to the public at the complex.

SKILLS	ITEM NO.
Identify synonyms	33
Infer cause and effect relationship	34
Differentiate between relevant and irrelevant information	35
Infer a writer's purpose	36
Predict the outcome	37

PASSAGE I

The "Clang! Clang! Clang!" of the trolley can be heard again on streets in some American cities. It's heard not just in San Francisco, where the people have never retired their famous cable cars and are now spending 60 million dollars to repair them, and not just in New Orleans, where the St. Charles Avenue trolley has been running since 1835. Trolleys are again hauling thousands of passengers daily in Pittsburgh, Cleveland, Boston, San Diego, Seattle, and—of all places—Detroit, the city that brought an end to the age of the trolley by ushering in the automobile.

Some of the trolleys running today are the new light-rail systems with auxiliary rubber tires. But others, like the trolleys in Detroit, are antique, heavy-track cars with rich hardwood and shiny brass interiors. Detroit purchased them from foreign cities. These cities had bought them new from U.S. manufacturers at the turn of the century or from U.S. cities which were replacing their trolleys at the end of World War II with buses. A shortage of gasoline during the war had caused a brief revival of the trolley.

The miles of track covered by systems like Detroit's are short compared to the "good old days." In those days, trolleys carried people to the edge of town and even between towns. Trolleys were actually responsible for the development of suburbs and amusement parks at the end of trolley lines. There were trolley post offices, funeral trains, and libraries—all rolling on metal wheels.

Today, the reappearance of the trolley is often connected with an interest in preserving history and an attempt to restore old, historic neighborhoods. It's working! Everyone loves the old mode of transportation, and thousands of passengers are making restored trolley lines profitable ventures for the cities that have revived them.

SKILLS	ITEM NO.
Identify word meaning from multiple meanings	38
Draw a conclusion	39
Distinguish between fact and opinion	40
Make judgments from information presented	41
Interpret figurative language (idioms, similes, metaphors)	42
Infer a main idea	43

PASSAGE J

Nearly three years after the Double Eagle II became the first balloon to successfully cross the Atlantic Ocean, two of its crew members were part of a four-man crew that was the first to successfully challenge the Pacific Ocean. They ascended from Japan on November 10, 1981, in the Double Eagle V. The balloon contained two and one-half times the amount of helium that had lifted the crew of the smaller Double Eagle II in its huge yellow, enclosed gondola. The gondola, made of foam and fiber glass, weighed a total of seven tons, over half of that being ballast—sand, lead shot, and surplus water to be cut away as necessary to gain altitude.

The Double Eagle V's ballast had to be sacrificed at a faster rate than planned, for a heavy coat of ice kept forming on the top of the polyethylene balloon, which was only 4.5 millionths of an inch thick. The Double Eagle V would drop as low as 4,200 feet, threatening to crash; and it never rose over 22,000 feet. The crew had hoped to make most of the crossing at 26,000 feet in 150 mile-per-hour winds. However, at the lower range of altitudes, their speed was much slower. At the California coast, they encountered that state's worst storm in 20 years. In their first effort to land, they nearly crashed into a row of houses. Further inland, the balloon was cut away as planned, and, 84 hours and 31 minutes after ascension in Japan, the gondola made a jolting, but successful landing on a brush-covered California hillside.

Statistics on the Flight of the Double Eagle V

Balloon height: 13 stories	Speed range: 42.6 to 100 mph
Gondola size: 7 x 7 x 17 ft.	Average speed: 68.3 mph
Amount of helium: 400,000 cubic feet	Altitude range: 4,200 to 22,000 ft.
Initial ballast: 3.5+ tons	Distance covered: 5,768 miles

SKILLS	ITEM NO.
Infer a main idea	44
Draw a conclusion	45
Infer comparisons (similarities)	46

PASSAGE K

People seldom fall into cracks during earthquakes. They are hurt by falling buildings, floods pouring from broken dams, or huge tidal waves. These result from a natural force that can have more of a wallop than an atom bomb or several erupting volcanoes. Thus, scientists are eager to learn how to predict the precise time that an earthquake will occur so that people can go to high, open areas away from the shoreline. Thus far, they have been able to predict the precise time of only two or three earthquakes. One of these came in 1975 in China, a country that a year later lost 600,000 people in an earthquake predicted by no one.

Scientists know that earthquakes will occur eventually along faults where two great plates of earth are rubbing very slowly past each other. Friction deters faster movement of the plates, and this resistance builds up in the form of stress in the earth around the fault, cracking the stone so that it absorbs more moisture and gases. When the weakened stone gives way, the stress bottled up in the stone along the fault is released suddenly, with the stone reacting much like a rubber band snapping back into shape. This results in relatively rapid movement of the plates along the fault, shaking the earth for miles around.

Scientists study such things as changes in the tilt of the plates rubbing together, the size of surface cracks between the plates, and the amount of gas and water in the rock. Someday they may be able to apply such data to develop accurate estimates of when earthquakes will occur, so that people living in the area can receive adequate warning and move to safer ground.

SKILLS	ITEM NO.
Infer a character's motives	47
Differentiate between relevant and irrelevant information	48
Identify events in sequence	49
Interpret figurative language (idioms, similes, metaphors)	50
Predict the outcome	51

PASSAGE L

I met Harry, a native of New Jersey, while we were studying law in Boston. His mellow, sophisticated charm was as comfortable as a fireplace, and he knew that fascinating city's historical sites and restaurants well enough to be a tour guide. Periodically, I'd say, "Let's stay here and practice law together." Then Harry would get a homesick look and change the subject. Finally, one day, Harry suggested that we visit the New Jersey area where he intended to practice law.

Since I expected to see a tightly packed urban area, I was astonished when, after several hours of driving, we parked by an abandoned railroad track, walked for about 15 minutes, and were in a world peopled by toads, turtles, buzzards, skunks, and snakes. "The Pine Barrens," Harry explained, "is a wilderness area covering over 2,000 square miles of this area of New Jersey." He named each bird and plant we saw – including the threadleaf sundew, which traps and eats insects. He said the Barrens contained 80 bird species and many species of reptiles and amphibians. The land was rich with vegetation – anything but barren.

Later, he talked quietly but intensely about the area's endangered species, including the Pine Barrens tree frogs I could hear in the cedar, oak, and pine forest outside. I now understood why Harry had never seriously considered settling in Boston. His beautifully natural, uncrowded place was just a few hours from the large cities that make New Jersey the most densely populated state in the Union. "It is also the site of new communities," Harry said seriously. "I can understand why people want to live here, and it belongs to us all. But I want to help assure that the new development doesn't destroy what we all come here to enjoy."

SKILLS	ITEM NO.
Identify synonyms	58
Distinguish between fact and opinion	59
Interpret figurative language (idioms, similes, metaphors)	60
Identify appropriate encyclopedia heading to locate more information about a topic	61

PASSAGE M

Many European cities are replacing public swimming pools with public leisure pools. These two types of pools have more differences than the names imply; one difference is the kind of swimmer that each type of pool attracts. Where leisure pools have been built, they have attracted twice as many people as traditional pools.

Swimmers are often bothered by people who enjoy splashing and playing around, or merely standing in the water chatting. Such people get in the way of swimmers in traditional, rectangular pools, but not in irregular "free form" leisure pools. Most of the leisure pool is shallow enough to encourage the "splashers" and talkers. Usually there are no swimming lanes or diving boards that require large areas of deep water usable by only a few people at one time. Instead, there are special features, such as whirlpools and unusual slides.

The leisure pool recreates the experience you might have on a beach. It is built under a high transparent or translucent roof that lets the sun in and that tends to give one the feeling of being outdoors, even when the pool is artificially lit at night. There are usually live palm trees, artificial rocks, and many large plants around to enhance this effect. The best feature of a leisure pool is its wave-maker, which washes areas of the pool with machine-made surf for short but regular periods of time. Nearby, there are concession stands and other types of entertainment, such as handball courts, gym areas, saunas, game areas, and a restaurant overlooking the activities. A leisure pool is an excellent place to play, but if serious swimming or diving is your idea of fun, you'll want to head for an old-fashioned swimming pool.

SKILLS	ITEM NO.
Identify correct word meaning by affixes	62
Distinguish between fact and opinion	63
Identify details that support the main idea	64
Infer a writer's purpose	65
Infer a character's motives	66

PASSAGE N

Many New Jersey citizens are surprised to hear their state called "bear country," but New Jersey's black bear population has grown from an estimated 22 to nearly 100 in the past 15 years. Reasons for this increase include a state law making it illegal to kill bears and the migration of bears from neighboring states that have larger bear populations. Some biologists think the word is out among bears—which are intelligent animals—that New Jersey is a safer place to live.

State biologists study black bears by snaring them with a cable which loops around one paw. After being snared, a bear is sedated with a syringe on the end of a long metal pole. Once asleep, the bear loses a fairly useless tooth which, when sliced, indicates its age. Before the bear is released, its ear is tagged with a colored plastic streamer for identification when it is sighted again, and a number is tatooed into its upper lip. The bear is also measured and is hoisted in a rope sling to be weighed. A few bears are collared with radio transmitters which enable biologists to trace their movements.

The chances of urban residents spotting a bear in their backyards are slight, but if it happens, people are instructed not to harm the bear, to be cautious, and to notify state conservation officers. Black bears prefer to eat fruits, nuts, vegetables, and an occasional squirrel. While they have attacked humans in other parts of the United States, no attack on a human has been recorded in New Jersey. In Pennsylvania, where humans kill up to 1,000 bears a year, there have been no reports of a bear attacking a human for over 100 years.

SKILLS	ITEM NO.
Identify details that support the main idea	67
Differentiate between relevant and irrelevant information	68
Infer contrasts (differences)	69

PASSAGE O

When you see the Bunraku Puppet Theater of Japan, your first impression is that your pleasure is coming from the skilled achievement of illusion. The feeling is similar to the delight one gets from looking at the miniature contents of a dollhouse and wondering how anyone can make objects so tiny look so real. How does the Japanese puppeteer make the half-life-size doll fold her hands on her lap with a gesture so realistic and moving that it makes the hair on the back of your neck stand on end?

However, Bunraku is not all an act of illusion. In fact, everything about it seems designed to dispel your illusion. The puppets do not speak their own lines. The lines are delivered by a narrator who sits in full view on a platform alongside the stage. The puppeteers are in full view as well, three of them per puppet – one manipulating the head and right arm, one the left arm, and one the legs. Although there is a raised panel that hides the puppeteers' lower bodies, making the dolls they manipulate in their midst seem to sit, stand, or dance on a "floor," even this pretense is abandoned repeatedly. The great power of the Bunraku performance derives from the deliberate combining of realism and artifice. The artificers are all there – puppeteers, narrator, and musicians – showing us that this is a "made" thing; art, not life. Yet, in their midst, stands the puppet, a wife grieving over the loss of her husband. As the drama of her grief unfolds, she seems to appropriate their reality.

Bunraku is about 250 years old and, like most traditional Japanese arts, it is passed down through families and the skills are acquired through serving a long apprenticeship. Puppeteers, narrators, and musicians are all products of patient training. It shows both in their art and in their demeanor. They are both formal and serene, as if these skills, which took them half a lifetime to learn, were as natural as the sunrise.

SKILLS	ITEM NO.
Identify synonyms	70
Identify correct word meaning by affixes	71
Infer cause and effect relationship	72

PASSAGE P

Amblyopia is poor vision in an eye that did not develop normal sight during childhood. It is sometimes called "lazy eye." A common condition affecting approximately four out of every 100 people, amblyopia can be cured only if treated during infancy or early childhood.

Although newborn babies are able to see, vision improves over the first month of life as use of the eyes increases, and it continues to develop during early childhood with proper use of the eyes. However, if the eyes are not used to capacity, visual abilities decrease. After the age of ten, the development of the visual system remains unchanged whether it is used thereafter or not. Amblyopia is caused by any condition that interferes with normal use of the eyes and visual development. Some people used to believe it was caused by poor diets in infancy. Most commonly, it occurs with misaligned eyes, such as "cross-eyes," although there are other causes. In all cases, vision in one eye is better than in the other, and the child favors the eye that sees best. The result is that the weaker eye does not develop fully.

Amblyopia is detected by finding a significant difference in vision between the two eyes. Treatment consists of forcing the child to use the weak eye by covering the good eye with a patch, often for weeks or months. Successful treatment depends on the severity of the amblyopia and the age at which the treatment is begun. If the problem is detected and treated early, most amblyopic children will develop improved vision by the age of nine. However, if the problem is first discovered after the child is six to nine years of age, treatment is seldom successful. Therefore, it is recommended that all children have their vision checked by the time they reach the age of four.

SKILLS	ITEM NO.
Identify correct word meaning by affixes	73
Distinguish between fact and opinion	74
Identify appropriate encyclopedia heading to locate more information about a topic	75
Summarize data from multiple sources	76

PASSAGE Q

Holes punched in snow are a very pure but eerie blue. It has been argued that this color is reflected from the sky, but meteorologist Craig F. Bohren notes that snow holes are blue even under a very gray sky. Bohren explains that the pure blue of the snow holes is a result of the snow absorbing light.

On the surface, Bohren says the snow is white because all of the light has been reflected. Looking into a deep hole in the snow, the snow just below the surface appears yellowish. Then, as one looks deeper, the hole looks yellowish-green, then bluish-green, and then vivid blue. This is because the tiny crystals of snow bounce the light around so much that eventually the light is absorbed. This occurs more quickly with the red light, so at even a relatively shallow depth, snow may appear blue. Eventually the blue light is absorbed as well and, deep down, the hole will appear black.

Ice, too, absorbs red more readily than blue; but in ice, Bohren says, it is air bubbles that bounce the light around. Since they are not nearly as fine as the crystals in snow, ice will not absorb light as quickly as snow and will often appear to be bluish-green. Arctic researchers have learned to pitch camp on the bluest ice, which is older and stronger because the layers have compressed the air bubbles in it, making the ice less likely to break up. The compressed air bubbles act like the crystals in snow, bouncing the light around, absorbing more of it, and making the ice bluer.

SKILLS	ITEM NO.
Identify word meanings from multiple meanings	77
Identify events in sequence	78
Identify details that support the main idea	79
Infer a writer's purpose	80

I. LITERAL COMPREHENSION/ VOCABULARY

A. Identify word meaning from multiple meanings

(Passage C)

8. In this story, the word balked means -

A. an illegal baseball move.
(B.) resisted.
C. frustrated.
D. surprised.

(Passage I)

38. In this article, the word retired means -

A. repaired.
B. not working.
(C.) stopped using.
D. went to bed.

(Passage Q)

77. In this article, the word pitch means -

A. tar.
B. a slope.
C. to throw.
(D.) to set up.

B. Identify synonyms

(Passage H)

33. In this article, a synonym for illustrious is -

A. bright.
(B.) famous.
C. evident.
D. elderly.

(Passage L)

58. In this story, the phrase urban area means the same thing as -

A. farm.
B. forest.
(C.) city.
D. wilderness.

(Passage O)

70. In this passage, miniature means the same thing as -

A. internal.
B. puppet.
(C.) tiny.
D. life-size.

C. Differentiate between relevant and irrelevant information

(Passage H)

35. Which of the following statements is least important to the main idea of this article?

(A.) Authentic Greek food can be found in Astoria.

B. The U.S. Army made films in Astoria.

C. Many great stars made films in Astoria.

D. Paramount moved to Hollywood in 1932.

(Passage K)

48. Which of the following facts in the article may help scientists predict earthquakes?

A. The size of the tidal wave increases.

(B.) The size of surface cracks in faults changes.

C. Earthquakes are more powerful than volcanoes.

D. The bottled-up stress is suddenly released.

(Passage N)

68. Which of these factors contributes to the increase of black bears in New Jersey?

A. Urban residents spot bears in their yards.

B. Citizens are surprised by how many there are.

(C.) A state law forbids killing them.

D. State biologists study them.

D. Identify main idea of a passage

(Passage B)

6. Which of these sentences is the main idea of this article?

A. Hundreds of sailing ships were built along New Jersey waterways out of pine, cedar, and oak.

B. Oystermen would harvest in September after the oysters had fattened.

C. In addition to shipyards, there were sailmaking lofts along New Jersey waterways.

(D.) The oyster industry guaranteed the continuation of New Jersey's sailing fleet until 1945.

(Passage C)

11. The main idea of this article is that -

A. an American has never been the "Most Valuable Player" in Japan.

B. Japanese baseball managers have more power than American managers.

C. Americans play baseball better than the Japanese.

(D.) playing baseball in Japan is difficult for some U.S. players.

(Passage F)

23. This passage is mostly about -

A. how some trees are smarter than others.

(B.) how trees communicate with each other.

C. how scientists share information.

D. how insects and trees are natural enemies.

E. Identify details that support the main idea

(Passage M)

64. A statement that supports the idea that leisure pools encourage playing more than swimming is -

A. many leisure pools are artificially lit at night.

B. leisure pools attract twice as many people as do traditional pools.

C. leisure pools are built under a high roof.

(D.) most leisure pools have no swimming lanes or diving areas.

(Passage N)

67. Which of the following statements supports the main idea of this article?

A. A bear's tooth can reveal the animal's age.

B. Bears have never attacked a human in New Jersey.

C. Up to 1,000 bears are killed each year in Pennsylvania.

(D.) The number of black bears in N.J. has risen from 22 to 100 in the past 15 years.

(Passage Q)

79. Which of these statements is most important to Bohren's explanation of why snow holes are blue?

A. Some argue that the blue is reflected from the sky.

B. Arctic researchers try to pitch camp on the bluest ice.

C. In ice, air bubbles bounce the light around.

(D.) The tiny crystals in snow enable it to absorb light so quickly.

F. Identify cause and effect relationship

(Passage A)

1. Kim began working on the school newspaper because -

A. she was very eager to interview Patty.

(B.) Patty made her feel she could contribute something worthwhile.

C. she was hoping to be named the school's "Best Citizen."

D. Patty wanted her to write about the class project.

(Passage D)

12. Because Lawson wanted the super airliner's trip from New York to San Francisco to be nonstop, it was necessary to -

A. build a cabin with two floors.

B. design a 200-foot wingspan.

C. increase the seating capacity.

(D.) refuel it in midair.

(Passage F)

22. The catalpa will stop producing fruit on a branch attacked by insects in order to -

A. signal the trees growing near it.

(B.) save resources for its other branches.

C. attract other insects.

D. save the branch from the insects.

G. Identify events in sequence

(Passage B)

5. Before oystermen planted the oysters in their own waters, they -

   A. had to wait for them to fatten.
   (B.) dredged them up from the spawning ground.
   C. harvested them from Delaware Bay.
   D. docked their vessels for the summer.

(Passage G)

30. Minnie's production first increased just after -

   A. she bought the second machine.
   B. the family income increased.
   (C.) Fred got her a sewing machine.
   D. Fred said the machine belonged in a factory.

(Passage K)

49. The stress in the stone along the fault is released right after -

   A. rapid movement of the earth plates.
   B. the earthquake is over.
   C. two earth plates first come together.
   (D.) the weakened stone gives way.

(Passage Q)

78. Just above the depth where it is bluest, a snow hole will be -

   A. yellowish-green.
   (B.) bluish-green.
   C. black.
   D. white.

H. Identify meaning of unfamiliar words from their context

(Passage C)

9. In this article, the word absolute means -

   (A.) not to be challenged.
   B. always helpful.
   C. very forgiving.
   D. very loud.

(Passage F)

19. A catalpa is a kind of -

   A. chemical.
   B. insect.
   (C.) tree.
   D. gas.

(Passage G)

28. The word engrossed means -

   (A.) had the complete attention of.
   B. badly offended.
   C. greatly disappointed.
   D. greatly surprised.

I. Identify correct word meaning by affixes

(Passage M)

62. In this article, the word irregular means -

A. rectangular.
B. usual.
C. with regularity.
(D.) not regular.

(Passage O)

71. In this article, the word puppeteer means -

A. without puppets.
B. the most puppets.
(C.) one who operates puppets.
D. with puppet-like qualities.

(Passage P)

73. In this article, the word misaligned means -

A. perfectly lined up.
(B.) not in line.
C. well-adjusted.
D. fully developed.

II. INFERENTIAL COMPREHENSION/ VOCABULARY

A. Infer a main idea

(Passage D)

15. A good title for this article would be -

A. "The World's First Successful Super Airliner".
(B.) "A Man Who Saw the Future".
C. "The 'Midnight Landing' ".
D. "The Double-Decker Railroad Car".

(Passage G)

32. The main idea of this story is that the sewing machine -

(A.) changed many people's lives in the 1800's.
B. freed women from having to make clothes.
C. was a noisy machine that did not belong in homes.
D. could be disguised as a piece of furniture.

(Passage I)

43. Which of the following titles best represents the main idea of this article?

A. "Light-Rail Trolleys – The Transportation of Today"
B. "Restoring Detroit Trolleys"
C. "Trolleys Helped Build Our Cities"
(D.) "The Trolley is Back!"

(Passage J)

44. How can the flight of Double Eagle V be characterized?

(A.) It was quite dangerous.
B. It was a smooth and uneventful flight.
C. It failed because of bad weather.
D. It set a speed record for balloons.

B. Predict the outcome

(Passage D)

13. If Lawson's financial backers had not withdrawn their support, he might have -

(A.) completed construction of the super airliner.
B. finished building the airplane in Garwood.
C. built a competitive railroad.
D. been the first person to fly alone.

(Passage H)

37. The article suggests that in the future the Astoria studios will be -

(A.) used for more filmmaking.
B. moved to California.
C. slowly destroyed.
D. rented to the U.S. Army.

(Passage K)

51. If the scientific studies discussed in this article are successful, eventually there will be -

A. fewer earthquakes.
(B.) fewer people harmed by earthquakes.
C. more, but smaller, fault lines in the earth.
D. a reduction in the number of tidal waves.

C. Draw a conclusion

(Passage G)

31. From this story, Minnie appears to have -

A. listened to everything Fred said.
(B.) been talented and industrious.
C. lost respectability.
D. bought the first sewing machine.

(Passage I)

39. The restored trolley lines in the U.S. are proving profitable today because -

A. the antique cars are so valuable.
B. they are opening up new suburbs.
(C.) so many people love to ride them.
D. they are expensive to ride on.

(Passage J)

45. One disappointment about this flight was that the -

A. balloon was lost on landing.
(B.) speed was slower than anticipated.
C. landing was successful.
D. ballast could not be recovered.

D. Infer a character's motives

(Passage A)

2. Why did Patty tell Kim about the job on the school paper?

   (A.) Patty wanted Kim to get involved in school activities.

   B. Patty knew that Kim would write an article about her.

   C. Kim was too shy to get the job herself.

   D. Patty and Kim were close friends.

(Passage K)

47. The main reason that scientists want to predict earthquakes is to -

   A. stop earthquakes before they start.

   (B.) warn people of possible danger.

   C. prevent dams from being destroyed.

   D. stop volcanoes from erupting.

(Passage M)

66. The article suggests that people in many cities are building leisure pools instead of traditional pools because -

   (A.) leisure pools are more popular with the public.

   B. leisure pools are much less expensive to build.

   C. traditional pools have proven to be too dangerous.

   D. they want more citizens to become better swimmers.

E. Infer a writer's purpose

(Passage H)

36. The author wrote this article to -

   A. criticize Hollywood, California.

   B. try to save Astoria from destruction.

   (C.) let us know of Astoria's importance.

   D. promote the Astoria museum.

(Passage M)

65. This article was written to -

   A. criticize the trend toward leisure pools.

   B. encourage the reader to purchase a leisure pool.

   C. discuss problems created by leisure pools.

   (D.) tell the reader about developments in pool designs.

(Passage Q)

80. This article was written to -

   (A.) explain how snow and ice absorb light.

   B. demonstrate that ice is stronger than snow.

   C. warn readers about Arctic dangers.

   D. argue against Bohren's explanation of blue snow.

F. Distinguish between fact and opinion

(Passage I)

40. Which of these statements is an opinion?

A. At one time, there were trolley post offices.
(B.) Everyone loves this old mode of transportation.
C. Repair of the San Francisco trolley system will cost $60 million.
D. Some current trolleys use rubber wheels.

(Passage L)

59. Which of the following is an opinion expressed by the author?

(A.) Harry would make a good tour guide.
B. The Pine Barrens tree frog is an endangered species.
C. The Pine Barrens include oak and cedar, as well as pine.
D. The threadleaf sundew traps and eats insects.

(Passage M)

63. Which of the following statements is the writer's opinion?

A. Most of a leisure pool is shallow.
B. Many cities are replacing indoor swimming pools with leisure pools.
(C.) The best feature of a leisure pool is its wave-maker.
D. A transparent or translucent roof lets the sun in a leisure pool.

(Passage P)

74. Which of these statements is an opinion?

A. Amblyopia affects about 4 in 100 people.
(B.) Amblyopia is caused by a poor diet.
C. Newborn babies are able to see.
D. Amblyopia is sometimes called "lazy eye."

G. Interpret figurative language (idioms, similes, metaphors)

(Passage I)

42. The phrase, "ushering in the automobile," means that Detroit -

(A.) was responsible for leading us into the age of the auto.
B. was the first city in the nation to post traffic signs.
C. gave the auto a back seat to the trolley.
D. had special roads built for autos.

(Passage K)

50. Stone along a fault is like "a rubber band" when the stone -

A. creates friction all along the fault.
B. absorbs more moisture and gases.
(C.) reacts to a sudden release from stress.
D. rubs the surface of the cracked plates.

(Passage L)

60. If Harry's charm "was as comfortable as a fireplace," being around him must have made people feel -

A. like stones.
(B.) warm and relaxed.
C. feverish.
D. bright and cheery.

H. Infer sequence, time order

(Passage B)

4. The regulations about the use of motor-powered ships were changed -

   (A.) during 1945.
   B. only for Delaware fishermen.
   C. after sailmakers complained.
   D. during colonial times.

(Passage E)

17. The earliest use of kites discussed in this article was -

   A. religious.
   (B.) militaristic.
   C. recreational.
   D. artistic.

(Passage F)

24. Which of the following events occurs second?

   A. The tree gives off a type of gas.
   B. The tree is attacked by insects.
   (C.) The tree undergoes chemical changes.
   D. Neighboring trees undergo chemical changes.

(Passage G)

29. What indicates that Minnie was the first in her neighborhood to have a sewing machine?

   (A.) The neighborhood women all came to see it.
   B. She had to make everyone's clothes.
   C. Fred bought it.
   D. She didn't know how to operate it at first.

I. Infer cause and effect relationship

(Passage F)

20. Scientists believe trees communicate with each other because some trees -

   (A.) change chemically when insects attack nearby trees.
   B. are eaten by insects in Finland, but not in the U.S.
   C. have longer roots than other trees.
   D. stop growing fruit on certain branches.

(Passage H)

34. A major reason Paramount Studio moved to California was to -

   A. allow the Army to use the Astoria plant.
   B. avoid the destruction of the studio by vandals.
   C. enable the Astoria plant to become a museum.
   (D.) be able to make movies less expensively.

(Passage O)

72. Which statement best shows a cause and effect relationship?

   (A.) Bunraku performances are powerful because they combine realism and illusion.
   B. You believe what is happening in a performance because you can see the puppeteers.
   C. The performances are not very interesting because the narrator speaks all the parts.
   D. Bunraku performances are convincing because they have been going on for 250 years.

J. Infer comparisons (similarities)

(Passage B)

7. In this article, the work in the oyster beds is compared to -

   A. sailmaking.
   (B.) farming.
   C. shipbuilding.
   D. trading.

(Passage D)

14. Some railroad cars came to look a bit like the super airliner because they -

   A. were constructed by Lawson.
   B. were constructed in New Jersey.
   C. had chutes to transfer mail.
   (D.) had two floors for passengers.

(Passage J)

46. Which of these statements can be made of both the flight of Double Eagle II and that of Double Eagle V?

   A. The same four men were on board for both flights.
   (B.) Each was the first balloon to cross a particular ocean.
   C. They both took place in 1981.
   D. The balloons both contained the same amount of helium.

K. Infer contrasts (differences)

(Passage C)

10. Compared to American managers, Japanese baseball managers are -

   A. better advisors.
   B. better paid.
   C. more knowledgeable.
   (D.) more powerful.

(Passage E)

16. What Chinese kite-flying tradition has changed?

   A. Most kites today symbolize good luck.
   (B.) Today, kites are flown all year long.
   C. Kites are no longer considered entertaining.
   D. Kites are no longer designed like warriors.

(Passage N)

69. Compared to the bear population in Pennsylvania, New Jersey has -

   (A.) relatively few bears.
   B. a large bear population.
   C. about half as many bears.
   D. about the same number of bears.

III. CRITICAL COMPREHENSION

A. Make judgments from information presented

(Passage A)

3. When Kim writes her story about the "Best Citizen," Kim should stress -

   A. how surprised everyone was by the choice.
   B. that Patty is not the best at anything.
   (C.) what a well-rounded person Patty is.
   D. that Patty is very friendly.

(Passage F)

21. From this article, one can tell that scientists -

   A. have almost completed their investigations in this area.
   (B.) still have many unanswered questions about tree communication.
   C. study trees seriously only in Finland.
   D. compare tree communication to insect communication.

(Passage I)

41. The article's description of the inside of antique trolleys makes them seem -

   A. risky to ride on.
   B. very up-to-date.
   C. beyond repair.
   (D.) elegant.

IV. STUDY SKILLS

A. Use catalog cards to locate information

Use this card from a card catalog to answer questions 55-57.

U.S. History - Revolution

973.301
Col

Colby, Jean Poindexter
Lexington and Concord, 1775. Illus. with photos by Barbara Cooney, old prints and maps. New York: Hastings House, 1975
129pp. illus.

Discusses the first battles of the American Revolution.

Bibliography: p. 109

1. Lexington, Battle of, 1775. 2. Concord, Battle of, 1775. 3. U.S. History - Revolution. I. Title.

55. What is the title of this book?

(A.) Lexington and Concord, 1775
B. U.S. History - Revolution
C. The American Revolution
D. Battle of Lexington, 1775

56. What information on the card suggests that the book contains a list of other books on the same topic?

(A.) Bibliography
B. Illustrations
C. Maps
D. Title

57. Who is the author of this book?

A. Barbara Cooney
B. Jean Poindexter
C. Hastings House
(D.) Jean P. Colby

B. Identify appropriate encyclopedia reading to locate more information about a topic

(Passage E)

18. If you wanted to learn more about the topic of this passage, under which of these encyclopedia headings should you look?

A. "China"
(B.) "Kites"
C. "Pure Brightness Festival"
D. "Ancient Art"

(Passage L)

61. If you wanted to use an encyclopedia to learn more about the plant that eats insects, you would look under which heading?

(A.) "Threadleaf Sundew"
B. "Pine Barrens"
C. "Wilderness Areas"
D. "New Jersey"

(Passage P)

75. If you were interested in learning more about amblyopia, but were unable to find that word in your encyclopedia, which of the following topics should you try next?

A. "Medicine"
B. "Cross-Eyes"
C. "Child Development"
(D.) "Diseases, Eye"

C. Summarize data from multiple sources

76. Which statement best summarizes this article?

(A.) Amblyopia is a condition that interferes with normal vision and can be corrected if detected early.

B. Misaligned eyes, "cross-eyes," are caused by amblyopia in young children.

C. All children should have their vision checked for amblyopia before the age of four.

D. Visual abilities decrease in children diagnosed as having amblyopia and cannot be improved later in life.

Directions:
For questions 81 to 87 you must read each question, then select the best answer for the question. Mark your answers on your answer folder.

Part of an index from a book is shown below. Use this index to answer questions 81 - 84.

Armor, body, 90-96; early use of, 90-92; in the Middle Ages, 95-96; on vehicles, 207-210

Arrow, parts of, 45-48. See also Bow.

Ax, battle-, 35; for chopping, 72; use by early people, 68-71

Battering-ram, first record of, 48-50; how used, 50-52; protection against, 52-53

Battle-ax. See Ax.

Blowgun, among ancient people, 27-30; for hunting, 32-33; in war, 30-31

Bow, crossbow, 85-89; longbow, 135-137; in the Middle Ages, 86-87; modern use of, 88-89; parts of, 84, 88

Cannon, firing of, 131-132; first use of, 132-134; sizes of, 133

Castles, construction of, 108-112; defense of, 110-118; living conditions in, 121-124; types of, 107-109

84. This index would probably be found in a book about –

(A.) weapons.

B. hunting implements.

C. the Middle Ages.

D. armor.

D. Select words from a specific dictionary page

Directions:
For questions 52 to 57 you must read each question, then select the best answer for the question. Mark your answers on your answer folder.

suspend - swift

52. The boxed words above are the guide words on a page in the dictionary. Which one of the following words would be found on that page?

(A.) svelte
B. strike
C. super
D. swing

flute - forge

53. The boxed words above are the guide words on a page of the dictionary. Which one of the following words would be found on that page?

(A.) forbid
B. former
C. forget
D. flirt

54. Which pair of guide words might be found on the same page of the dictionary as the word memoir?

A. memory - musical
B. machine - mechanize
(C.) melody - menace
D. magic - meek

E. Locate information in an index

Directions:
For questions 81 to 87 you must read each question, then select the best answer for the question. Mark your answers on your answer folder.

Part of an index from a book is shown below. Use this index to answer questions 81 - 84.

Armor, body, 90-96; early use of, 90-92; in the Middle Ages, 95-96; on vehicles, 207-210

Arrow, parts of, 45-48. See also Bow.

Ax, battle-, 35; for chopping, 72; use by early people, 68-71

Battering-ram, first record of, 48-50; how used, 50-52; protection against, 52-53

Battle-ax. See Ax.

Blowgun, among ancient people, 27-30; for hunting, 32-33; in war, 30-31

Bow, crossbow, 85-89; longbow, 135-137; in the Middle Ages, 86-87; modern use of, 88-89; parts of, 84, 88

Cannon, firing of, 131-132; first use of, 132-134; sizes of, 133

Castles, construction of, 108-112; defense of, 110-118; living conditions in, 121-124; types of, 107-109

81. If you wanted to find out how the bow and arrow is used today, on which pages would you look?

A. Pages 45-48
B. Pages 86-87
(C.) Pages 88-89
D. Pages 135-137

82. If you wanted to know when battering rams were first used, on which pages would you look?

A. Pages 90-92
B. Pages 52-53
C. Pages 50-52
(D.) Pages 48-50

83. On which pages would you find information about the use of armor in the Middle Ages?

A. Pages 68-71
B. Pages 86-87
C. Pages 90-92
(D.) Pages 95-96

F. Interpret data presented in visual form

Use this airline schedule to answer questions 85 - 87.

COMMUTER AIRLINES
Flight Schedule

Boston to New York					New York to Washington, D.C.				
Flight		Leave		Arrive	Flight		Leave		Arrive
10	AM	9:00	-	10:15	5	AM	8:10	-	9:50
20		11:15	-	12:30	15		10:50	-	12:30
30	PM	3:00	-	4:20	25	PM	1:10	-	3:00
40		5:30	-	6:45	35		3:00	-	4:50
50		8:15	-	9:30	45		7:00	-	8:40
					55		10:35	-	12:15

85. If you wanted to arrive in New York by 5:00 P.M., what is the latest flight from Boston you could take?

A. Flight 20
(B.) Flight 30
C. Flight 35
D. Flight 40

86. Based on the schedule above, about how long does a flight from Boston to New York on Commuter Airlines take?

A. 1 hour
(B.) 1 hour, 15 minutes
C. 1 hour, 40 minutes
D. 2 hours

87. If you need an hour between flights, what is the latest Commuter Airlines flight from Boston to New York you could take in order to catch Flight 45 to Washington?

A. Flight 10
(B.) Flight 30
C. Flight 40
D. Flight 50

G. Locate information from a table of contents

For questions 25 to 27 you must read each question, then select the best answer for the question. Mark your answers on your answer folder.

A table of contents from a book about photography is shown below. Use it to answer questions 25 - 27.

CONTENTS

Chapter		Page
I.	History of Photography	1
II.	How to Take Good Snapshots	53
III.	All About Your Camera	74
IV.	How to Develop Film	91
V.	Uses of Photographs	109

25. On which page would you start reading to find out when the first Polaroid camera was developed?

(A.) Page 1
B. Page 53
C. Page 91
D. Page 109

26. On which pages would you find tips on improving your photography?

A. Pages 1-52
(B.) Pages 53-73
C. Pages 74-90
D. Pages 91-108

27 If you wanted to learn the function of a camera's aperture, which chapter would you read?

A. I
B. II
(C.) III
D. V

APPENDIX B

Matrix of Strategies for Teaching Specific Skills

THE RELATIONSHIP BETWEEN INSTRUCTIONAL STRATEGIES

AND SKILL OUTCOMES AS TESTED ON THE NSPT

		SKILLS									
	INSTRUCTIONAL STRATEGIES	Understanding multi-meaning words and unfamiliar words in context	Distinguishing between relevant and irrelevant information	Determining main idea/ supporting details	Drawing conclusion Drawing conclusions	Determining the author's purpose and motive	Understanding a sequence of events	Understanding cause-effect relationships	Comparing and contrasting	Synthesizing information from multiple sources	Making judgments
PREINSTRUCTIONAL STRATEGIES	Structured Overviews	✓	✓	✓	✓		✓	✓	✓	✓	✓
	Story Map			✓	✓	✓	✓	✓	✓	✓	✓
	Advance Organizer PReP	✓	✓		✓	✓					
	Concept Development	✓	✓								
	Semantic Map	✓	✓								
	Preview		✓	✓	✓	✓	✓	✓	✓	✓	✓
	Pretest	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Behavioral Objectives	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
READER-TEXT INTERACTIONAL STRATEGIES	Questioning	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Inferencing		✓	✓	✓	✓	✓	✓	✓	✓	✓
	Request	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Guided Reading Procedure (GRP)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	REAP			✓	✓				✓	✓	✓
	DR-TA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	SQ3R		✓	✓	✓	✓	✓	✓	✓	✓	✓
	Study Guides	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Outlining and Summarizing		✓	✓	✓	✓	✓	✓	✓	✓	✓
	Locating Information		✓	✓	✓	✓	✓	✓	✓	✓	✓

APPENDIX C

Bloom's Taxonomy of Educational Objectives

Bloom's Taxonomy of Educational Objectives

Bloom's (1956) Taxonomy of Educational Objectives lists six categories of thinking which encompass all intellectual objectives in education. These categories are:

Knowledge:	Does the student remember what he has seen or read?
Comprehension:	Can the student organize what he knows?
Application:	Can the student apply techniques and rules to solve problems that have single correct answers?
Analysis:	Can the student identify motives and causes, make inferences, and find examples to support generalizations?
Synthesis:	Can the student make predictions, solve problems or produce original communications, such as plays, stories, and posters?
Evaluation:	Can the student give opinions about issues, judge the validity of ideas, judge the merit of solutions to problems, or judge quality of art and other products?

APPENDIX D

Elements in Reading Materials: Structure and Function

Appendix D

Elements in Reading Materials: Structure and Function

LITERARY ELEMENTS IN NARRATIVE TEXT

Students should learn the five basic elements of narrative prose (Manhattan Community School District 4, 1981). Not all elements are developed equally in all stories but knowing these literary elements will help students comprehend and remember stories.

PLOT is the sequence of events as related by the author. Usually the plot begins with an initiating event that helps define the story problem. The events build to a climax or crisis and then slowly wind down to a conclusion. Some difficulties may arise when the author uses simultaneous action, flashbacks, or begins the story in the middle of the plot.

SETTING is the time and locale in which the story takes place. Students need to recognize how setting influences the plot or character development. Setting can serve just to enhance the story. Problems develop when the setting, food, clothing, transportation, or speech is unfamiliar to the students. Sometimes the setting is not fully developed.

CHARACTERIZATION is the development and behavior of the character throughout the story. Students need to understand the importance of the characters and their relationship to the plot and the setting. Through careful analysis of a character's actions, speech, and the actions and reactions of other characters, the student can understand how the author develops the character.

MOOD is the feeling or atmosphere the author wants to convey to the reader and may be built throughout the story. Mood is usually created through the use of connotative words and the direct and indirect description of characters and setting.

THEME is the underlying purpose or message the author wishes to get across to the reader. A story is written to entertain, impart information, give a point of view or serve a purpose. Plot, setting, characterization, and mood all relate to the theme, which usually is not explicitly stated. Determining the theme in many literary forms requires higher-level cognitive thinking skills: analysis, synthesis, and sometimes evaluation.

THE STORY GRAMMAR

Reading and language authories believe that readers use a "story schema" both to understand the narrative and to remember it later. This framework helps readers recognize basic story elements and related details. The more closely the story adheres to the reader's schema, the easier it is to comprehend and recall.

Story grammars have been developed to help researchers and teachers understand and foster the thinking processes (i.e., schemas) involved in reading and remembering narrative text. A story grammar is an analysis of the components of a story, specifying their characteristic functions and relationships. All of the various available grammars identify essential elements in story structures, that is, setting, episode, and events.

The following categories comprise one representative story grammar: 1) setting (characters, time, location); 2) precipitating event; 3) reaction (of a main character); 4) attempt (character's plan to reach a goal); 5) outcome; and 6) ending (Mandler & Johnson, 1977).

Teachers can use their knowledge about story grammars in several ways, for example:

- to evaluate stories and select well-structured ones for reading lessons
- to plan instructional activities that will strengthen children's understanding of parts of stories and such relationships as cause-effect and action-reaction
- to construct questions in order to help students focus on the story structure as they read and, later, to help them recall the story (Rand, 1984).

WRITING PATTERNS IN EXPOSITORY TEXT

It is extremely important for the students to recognize patterns of writing as a way of helping them comprehend what they are reading. Below is a listing of the most frequently used patterns in three content areas (Robinson, 1978).

SCIENCE	SOCIAL STUDIES	MATH
enumeration	topic development	concept development
classification	enumeration	principle development
generalization	generalization	problem/solution
problem/solution	sequence	
comparison/contrast	effect-cause/cause-effect	
	question/answer	

Paragraph Structure and Function

If students an taught to analyze the structure and function of certain paragraphs in expository writing, they will be aware of how the author develops what is to be communicated. This is an aid in comprehending what they have read. Presented below are a list of paragraphs and their functions (Robinson, 1978). These structured features should not be taught in isolation, nor should memorization of function be stressed.

- Explanatory paragraphs inform or give factual information. This is the most common paragraph in expository writing. Readers should look for:

  a. unfamiliar words and definitions in these paragraphs

  b. more than one paragraph that develops the information

  c. graphics that are part of the paragraph.

- Definitional paragraphs focus on giving the meaning of one or more of the concepts developed. Students can ask, "Is a meaning being given?" "What does the concept mean?"

- Introductory paragraphs serve to give broad general information, but not many specific facts. They may be written in narrative style to introduce a topic. The paragraphs help focus the reader's attention on the concept and give the reader a purpose for reading.

- Summarizing and concluding paragraphs serve to restate and review important information. Sometimes they serve as transitional paragraphs from one chapter to another. Students should:

  a. identify summarizing words in the paragraph

  b. check their comprehension with the information in the summarizing paragraph.

- Transitional paragraphs have two functions. They summarize one concept and introduce another. Readers usually skip over questions instead of realizing they help in the summary and synthesis of ideas. Sometimes there are brief statements in the transitional paragraph that serve the same purpose as questions.

- Narrative Paragraphs are used as introductory paragraphs in expository writing. They serve to introduce important ideas or bridge the concepts presented. Usually, information that answers the questions who, what, when, where, why, and how can be found in this type of paragraph.

- Descriptive paragraphs are usually found in literature, though sometimes in social studies or science passages. These paragraphs try to give the reader a visual image of the interesting factual information presented. Descriptive paragraphs help convey the "feeling" of the literature.

- Persuasive paragraphs are found in editorials, articles and advertisements of newspapers and magazines. Writers attempt to convince the reader to do something. Students should search for the persuasive techniques and question why the writer wrote the article.

APPENDIX E

Effective Programs for Reading and Thinking

-- Classroom Programs Certified by the Joint Dissemination Review Panel, National Diffusion Network

-- New Jersey Network Television Programs to Help Students Think

PROGRAM PROFILE

Project Title	READ-WRITE
Content Area	Writing
Grade Level	4-12
Description	A program in reading and related language arts that uses writing techniques and prescriptions to improve reading comprehension and vocabulary.
Certification	Joint Dissemination Review Panel (JDRP)
Site Location	Newark Public Schools 2 Cedar Street Newark, New Jersey 07102
Contact Person	Fred McCarthy 201-733-7116
Demonstration Site(s)	Newark, New Jersey
Certified Presenter(s)	None available
Services	Two-day training workshop for teachers and administrators - $150.00/day for project trainer expenses; Resource and Instructional Manual: $20; Administrator's Manual: $7.50.
Date of Verification	7/84
Notes	User is responsible for staff release time and some trainer's expenses. Visitors are welcome at demonstration site by appointment.

PROGRAM PROFILE

Project Title	W.R.I.T.E.
Content Area	Writing
Grade Level	K-12
Description	A process approach to writing that enables teachers to improve student writing while maintaining spelling, handwriting, mechanics and usage in all areas of the curriculum.
Certification	Joint Dissemination Review Panel (JDRP)
Site Location	Glassboro Public Schools Administrative Annex Delsea Drive Glassboro, New Jersey 08028
Contact Person	Walter Vail/Patricia Rubin 609-881-2290
Demonstration Site)s)	Southern Regional High School, Barnegat, New Jersey; Randolph, New Jersey
Certified Presenter(s)	None available
Services	15-hour training workshops for teachers and administrators by arrangement. Project curriculum guide is available for trained teachers.
Date of Verification	7/84
Notes	User is responsible for staff release time and trainer's travel and per diem expenses. Visitors are welcome at project site and demonstration site by appointment.

PROGRAM PROFILE

Project Title	PROJECT BASIC
Content Area	Reading
Grade Level	7-8
Description	A program to improve reading skills through an emphasis on the learning of processes which apply to any content area or learning situation.
Certification	Joint Dissemination Review Panel (JRDP)
Site Location	Benjamin Franklin Middle School 1430 Scott Street San Francisco, California 94115
Contact Person	Ms. Donna Kay LeCzel 415-567-0929 or 415-565-9654
Demonstration Site(s)	None available in proximity to New Jersey
Certified Presenter(s)	None available
Services	Two teacher training sessions. In-depth materials are available at no cost.
Date of Verification	7/84
Notes	User is responsible for staff release time. Travel expenses and per diem for trainer are to be paid by adopter.

PROGRAM PROFILE

Project Title	CLIMB: COORDINATED LEARNING INTEGRATION-MIDDLESEX BASICS
Content Area	Reading
Grade Level	K-12
Description	A diagnostic/prescriptive continuous-progress approach to the acquisition of reading and study skills across content areas that provides a management design for coordinating and integrating classroom and support personnel using existing instructional materials.
Certification	Joint Dissemination Review Panel (JDRP)
Site Location	Middlesex Public Schools Administration Offices Kennedy Drive Middlesex, New jersey 08846
Contact Person	Mrs. Barbara Brenner 201-968-4494
Demonstration Site(s)	Middlesex, New Jersey
Certified Presenter(s)	Alyce Thorp; Larry Cornell; Rosemary Walsh; Adolph Delucca
Services	Two-day training with one-day follow-up training for teachers and administrators: $150.00/day for project trainers. Curriculum materials and training manual: $100.00.
Date of Verification	7/84
Notes	User is responsible for staff release time. Visitors are welcome at project site by appointment.

PROGRAM PROFILE

Project Title	EFFECTIVE USE OF TIME IN SECONDARY READING CLASSES
Content area	Reading
Grade Level	7-12
Description	A program that provides staff development to help teachers and students to use time effectively in reading classes.
Certification	Joint Dissemination Review Panel (JDRp)
Site Location	George Peabody College Kennedy Drive Nashville, Tennessee 37203
Contact Person	Dr. Jane Stallings 615-322-8448
Demonstration Site(s)	None available
Certified Presenter(s)	None available
Services	Seven 2 1/2 hour workshops usually held after school hours. Teachers are observed three times during the year.
Date of Verification	7/84
Notes	User is responsible for staff release time and all trainer expenses (per diem, travel, etc.).

PROGRAM PROFILE

Project Title	I.M.P.A.C.T. (IMPROVE MINIMAL PROFICIENCIES BY ACTIVATING CRITICAL THINKING)
Content Area	Reading
Grade Level	7-9 (may be applicable to students functioning at fifth and sixth grade reading levels)
Description	A staff development program to infuse critical thinking skills and the application of a critical thinking curriculum to the teaching of reading.
Certification	Joint Dissemination Review Panel (JDRp)
Site Location	Orange County Board of Education 200 Kalmus Drive Costa Mesa, California 92629
Contact Person	Dr. S. Lee Vinocur 714-966-4364 pr 714-966-4375
Demonstration Site(s)	None available in proximity to New Jersey
Certified Presenter(s)	None available
Services	Three-day inservice for minimum of 20 teachers at $100 a participant. IMPACT Curriculum Kit at $150 per kit (one kit per school is sufficient).
Date of Verification	7/84
Notes	User is responsible for staff release time. One person who has completed training is required to attend a two-day seminar to learn to train other teachers. Participating schools hould send a team (principal, 2 teachers, resource teacher) for training. Program may be adopted by a group of districts for cost effectiveness.

PROGRAM PROFILE

Project Title	SIERRA READING LAB PROGRAM
Content Area	Reading
Grade Level	7-8
Description	A program of developmental reading instruction and materials in a laboratory setting.
Certification	Joint Dissemination Review Panel (JRDP)
Site Location	Sierra Jr. High School 3017 Center Street Bakersfield, California 93306
Contact Person	Ms. Barbara Clark 805-328-4838
Demonstration Site(s)	None available in proximity to New Jersey
Certified Presenter(s)	None available
Services	Five-day staff inservice - $150/day for trainer expenses.
Date of Verification	7/84
Notes	User is responsible for staff release time. Staff must be committed to a child-centered, diagnostic/prescriptive approach to teaching and be willing to utilize learning centers and small group instructional techniques. Travel expenses and per diem for trainer may be involved.

PROGRAM PROFILE

Project Title	STUDENT TEAM LEARNING
Content Area	Reading
Grade Level	3-12
Description	A program designed around a set of instructional techniques that places students in heterogeneous learning teams to master reading skills.
Certification	Joint Dissemination Review Panel (JDRP)
Site Location	Johns Hopkins University Center for Social Organization of Schools 3505 N. Charles Street Baltimore, Maryland 21218
Contact Person	Dr. Ruth H. Carter 301-338-8249
Demonstration Site(s)	East Windsor, New Jersey
Certified Presenter(s)	Marie Jantos/Gilda Rorro New Jersey Department of Education Dr. Sarah Banks New Jersey Department of Education
Services	One to two days teacher training - $150.00/day for trainer expenses. Materials are available for $5 to $40.
Date of Verification	7/84
Notes	User is responsible for staff release time. Some travel expenses for trainer may be involved. For school or district implementation, there should be general awareness training followed by workshop training. Visitors are welcome at demonstration site by appointment.

THINKABOUT

THINKING: GRADES 5-6
60 PROGRAMS: 15 MINUTES EACH

LESSON	TITLE
1	Why Bother?
2	Brainstorming
3	Blockbusting
4	You Can Remember
5	Estimating
6	Approximating
7	Using Estimating And Approximating
8	Find Your Guide
9	What's The Meaning?
10	Meaning Is More Than Words
11	Remember The Audience
12	But, What Does It Mean?
13	The Bigger The Picture
14	Where Are You Coming From?
15	Make A Present For The Future
16	What Do I Know?
17	Where Should I Go?
18	What Should I Do?
19	There Are Ways To Remember
20	Classifying Objects
21	Classifying Information
22	Classifying: Stereotyping People
23	There Are Many Ways To Go
24	People Patterns
25	Communication Patterns
26	Cultural Patterns
27	Nature's Pattern
28	Search For The Unknown
29	Drawing Conclusions
30	Checking Conclusions
31	Practice For Success
32	One Step At A Time
33	Plan Ahead
34	Calm Your Jitters!
35	What Are They?
36	Where Do You Get Them?
37	How Do You Change Them?
38	Design A Language
39	Symbols
40	More Than You Think
41	Summarizing
42	Using Maps And Models
43	Get Ahead With Goals
44	Should I Believe It?
45	What's Important?
46	What's Enough?
47	Point Of View
48	Persuasive Techniques
49	Make A Deal With Yourself
50	Styles Of Communication
51	Planning A Presentation
52	Making A Presentation
53	Making Your Point
54	Making It Come Alive
55	Make Something New
56	One Thing Leads To Another
55	Make Something New
56	One Thing Leads To Another
57	A Matter Of Time
58	There's Always A Risk
59	Hanging In There
60	Plan A City Of The Future

TO THE TEACHER

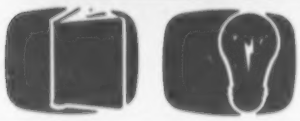
THINKABOUT is a series of sixty fifteen-minute programs that help fifth and sixth graders acquire and use the skills they must have to be independent learners and problem-solvers. The series deals with language arts, mathematics and study skills, and puts special emphasis on their common denomination, thinking.

Independent learners have the confidence and ability to get along in a changing world. They can (1) effectively express themselves, (2) manage their own learning, (3) reason systematically, and (4) think flexibly. The goal of THINKABOUT is to encourage the development of and strengthen these qualities in young learners.

THINKABOUT is organized in "clusters" or groups of programs. Clusters present general thinking skills such as classifying, giving and getting meaning, sequencing—skills that can be used when solving problems in school and out. Each cluster program contains objectives that relate to the cluster's reasoning skill, and the program also reinforces one or more language arts, mathematics or study skills. Cluster programs may be used singly, but they are likely to make their greatest impact on students when used as a group.

Interspersed between clusters, and unrelated to them, are two other kinds of programs, Tips and Challenges. These form two mini-series within THINKABOUT. The eight Tips offer special ideas in independent learning and problem solving for students to discuss and practice. They focus on such topics as improving memory, setting goals and handling anxiety. Tip programs also reinforce one or more language arts, mathematics or study skills. The five Challenges present complex problems for student investigation when the program is over. These are intended to stimulate students' intellectual processes and to offer teachers opportunities to assess informally the students' abilities to manage learning independently, express themselves effectively, reason systematically and think flexibly.

IN OTHER WORDS



LANGUAGE ARTS: GRADES 7-8
12 PROGRAMS: 15 MINUTES EACH

LESSON	TITLE
1	Consider Your Audience
2	Breaking Down a Topic
3	Using People Sources
4	Organizing Your Message
5	Would an Example Help?
6	Using the Words of Others
7	What's the Best Word?
8	How Can I Get People to Listen?
9	Active Listening
10	Am I Getting Through?
11	Building on Your Work
12	How Can I Be a Constructive Critic?

TO THE TEACHER

IN OTHER WORDS is designed to increase the ability of seventh and eighth graders to communicate effectively as it shows them how communication skills relate to their own lives. Viewers see young people and adults solving common communication problems and using language arts skills successfully in real-life situations. The series combines dramatic and documentary formats, and uses a host to highlight instructional points. The host is Stephanie Edwards, formerly of ABC's "A.M. America."

The series blends language arts skills with problem-solving techniques to help students prepare effective written and spoken messages, listen attentively and present clearly, organize their ideas and evaluate their work. Programs are grouped into four skill clusters: getting ready, organizing ideas, giving meaning to messages and evaluating.

WHATABOUT

SCIENCE: GRADES 7-8
12 PROGRAMS: 15 MINUTES EACH

LESSON	TITLE
1	Questioning in Science
2	Hypothesizing
3	Observing
4	Measuring
5	Recording Data
6	Classifying
7	Inferring
8	Predicting
9	Modeling
10	Experimenting
11	Decision-Making
12	Communicating

TO THE TEACHER

The series of twelve 15-minute programs is designed to help seventh and eighth grade students apply reasoning and thinking skills to the scientific process and help them understand its connection between science and their lives and apply scientific processes to solve problems or answer questions.

A MATTER OF FICTION

LITERATURE: GRADES 7-9
15 PROGRAMS: 20 MINUTES EACH

LESSON	TITLE
1	The Pit And Smoke
2	A Slave's Tale
3	Ash Road
4	Donbas, The Endless Steppe
5	All The Dark Places/Five Boys In A Cave
6	The Faraway Lurs
7	The White Mountains/The City Of Gold And Lead
8	Durango Street
9	The Innocent Wayfaring/A Traveler In Time
10	The Outsiders
11	The Year Of The Jeep
12	Undertow
13	Across Five Aprils
14	The Day Of The Bomb/The Little Fishes
15	Bookbag

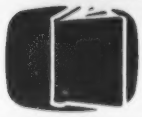
TO THE TEACHER

A MATTER OF FICTION presents books for one purpose—enjoyment. These books are about adolescents, by writers who believe in the world and the problems of teenagers. In fact, one of the books presented in the series is by a teenager.

There are many types you will recognize among the characters in these books: the "unmotivated," the "daydreamer," the "liar," the "hero," the "good student," and the "drop-out"—they're all present. But there are many other new characters among the group that should be atypical and wholly contemporary.

Selections of the books to be highlighted on A MATTER OF FICTION were based on several broad "interest areas" appropriate for the junior high school student: sibling rivalry, juvenile delinquency, the need to love and be loved, survival, the generation gap, gang warfare, man's inhumanity, science, fantasy, American historical fiction, adventure fiction, humor, true adventure, heroism and antiheroism. Each of the books listed under "Further Reading" will share some similarities with the book or books highlighted on the television program. Perhaps they will help you in suggesting titles to students on a more individualized basis.

A MATTER OF FACT



LITERATURE: GRADES 7-9
15 PROGRAMS: 20 MINUTES EACH

LESSON	TITLE
1	Search And Serendipity
2	In A Violent Time
3	Last Stand
4	It Will Happen Again
5	Man's Inhumanity
6	Man In A Paper Boat
7	And There Was No More
8	The Creative Person
9	Diggers And Finders
10	Black Wealth
11	As The World Plays
12	Trail Of Tears
13	White Magic, Black Magic
14	Action/Reaction
15	To A Different Drum

TO THE TEACHER

A MATTER OF FACT is a series of 15 color television programs for junior high school students highlighting the most recent and exciting works of non-fiction materials on the young adult level.

It is a sequel to A MATTER OF FICTION and was designed and produced as a result of a nationwide demand.

APPENDIX F

Sources of Additional Assistance

RESOURCES FOR ADDITIONAL ASSISTANCE

For additional assistance with the planning and programmatic issues raised in this resource guide, educators may want to investigate the agencies and centers listed below.

1. Regional Curriculum Services Center - North, 15 South Munn Avenue, East Orange, New Jersey 07017; 201-266-8660.

   Regional Curriculum Service Center - Central, 75 Racetrack Road, East Brunswick, New Jersey 08816; 201-390-6038 or 6039.

   Regional Curriculum Services Center - South, Tanyard and Salina Roads, Sewell, New Jersey 08080; 609-468-6500.

   The regional curriculum services centers carry out the following kinds of functions for school districts located in their service regions: awareness workshops, inservice training and staff development workshops, dissemination of departmental publications, dissemination of information, and limited and specified consultative services. Their staffs include specialists in areas of curriculum, instruction, and evaluation. Schedules of workshops and listings of staff members are available from each of the centers.

2. Learning Resource Center - Northern Region, 15 South Munn Street, East Orange, New Jersey 07017; 201-266-8660.

   Learning Resource Center - Northern Satellite, Normandy Park Administration Building, Normandy Parkway, Morristown, New Jersey 07960; 201-539-0331 or 0337.

   Learning Resource Center - Central Region, 75 Racetrack Road, East Brunswick, New Jersey 08816; 201-390-6038 or 6039.

   Learning Resource Center - South Jersey Region, 207 Delsea Drive, Route #47, R.D. #4, Box 209, Sewell, New Jersey 08080; 609-228-6000.

   Curricula resource materials, print information, and literature searches are available from the learning resource centers.

3. National Diffusion Network Facilitator Project, Educational Resource and Referral Center, 207 Delsea Drive, Route #476, R.D. #4, Box 209, Sewell, New Jersey 08080; 609-228-6000.

   The National Diffusion Network (NDN) Facilitator Project provides information and schedules awareness and training workshops on validated programs within the NDN. Information about effective reading and critical thinking programs is available from this project.

IMPROVING STUDENTS' ABILITY TO READ AND THINK:

A RESOURCE GUIDE FOR READING TEACHERS OF JUNIOR HIGH SCHOOL STUDENTS

FEEDBACK SHEET

After your review and/or use of this Resource Guide book, the Department of Education would appreciate your response. Please respond to the questions below and make any other comments you consider important. Your response to any or all of the questions will be most welcome. You may duplicate this form for your response. We would appreciate your response after you have had this publication for at least one month.

Your Position:_____Current Grade Level(s)_____
Years in Teaching_____ Highest Degree_____ Certification_____

A. How did you receive this resource book? Did you also receive training in its use?

B. Please describe adjustments you have made in teaching reading or in overall teacher/student interaction which could be attributed to strategies presented in this Resource Guide. Be specific.

C. How do you think this Resource Guide could be improved?

D. What additional information or materials might help you to relate the approaches suggested in the Guide to your teaching?

E. What follow-up workshop session(s) organized around this resourcebook would be most effective for you?

F. With whom and how have you shared this Resource Guide?

G. Other observations and remarks:

(Optional)

Name:_____

Address:_____

Please return this feedback sheet to your RCSU workshop leader or mail to:

Bureau of Cognitive and Academic Skills Development
New Jersey State Department of Education
225 West State Street
Trenton, New Jersey 08625